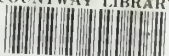
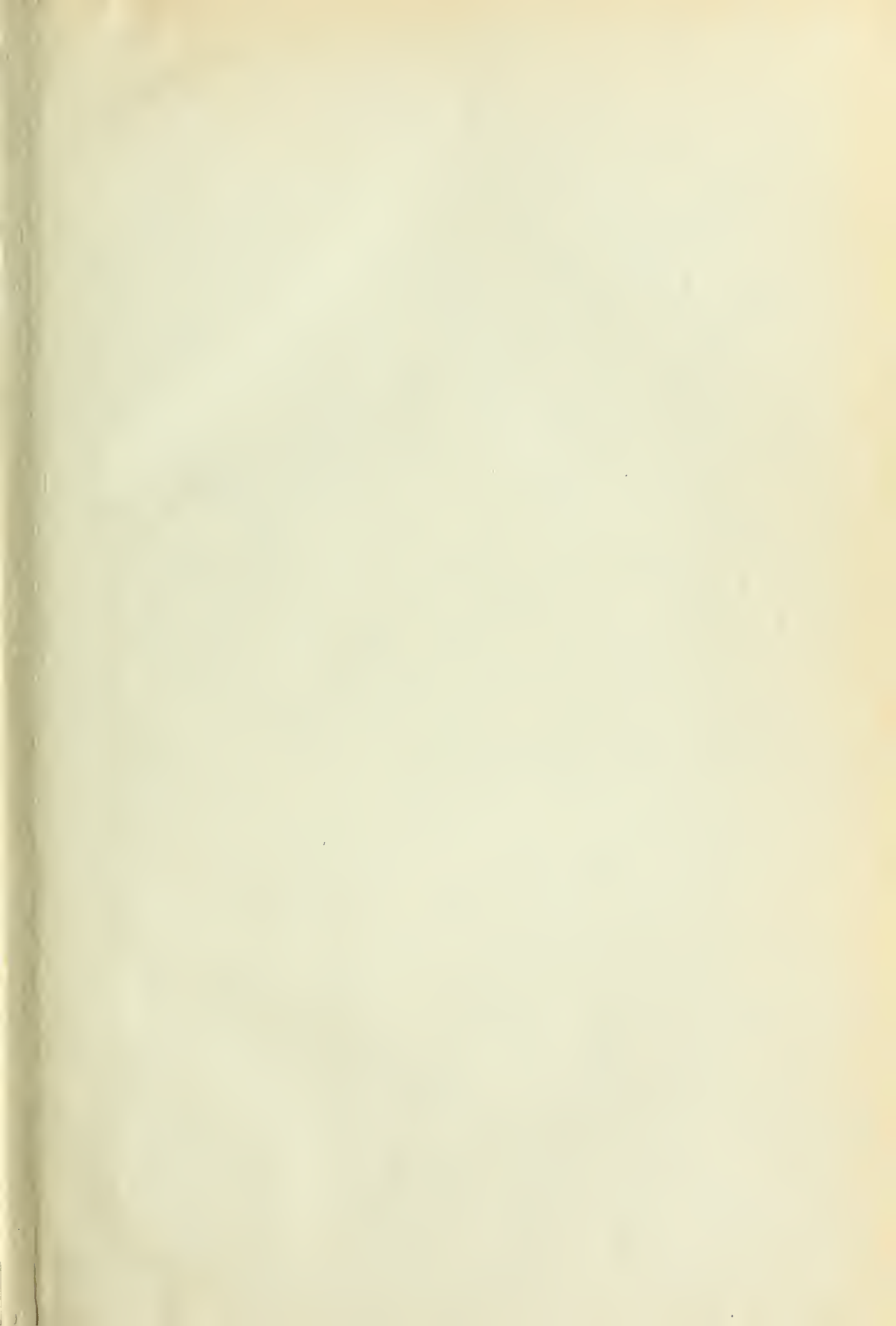


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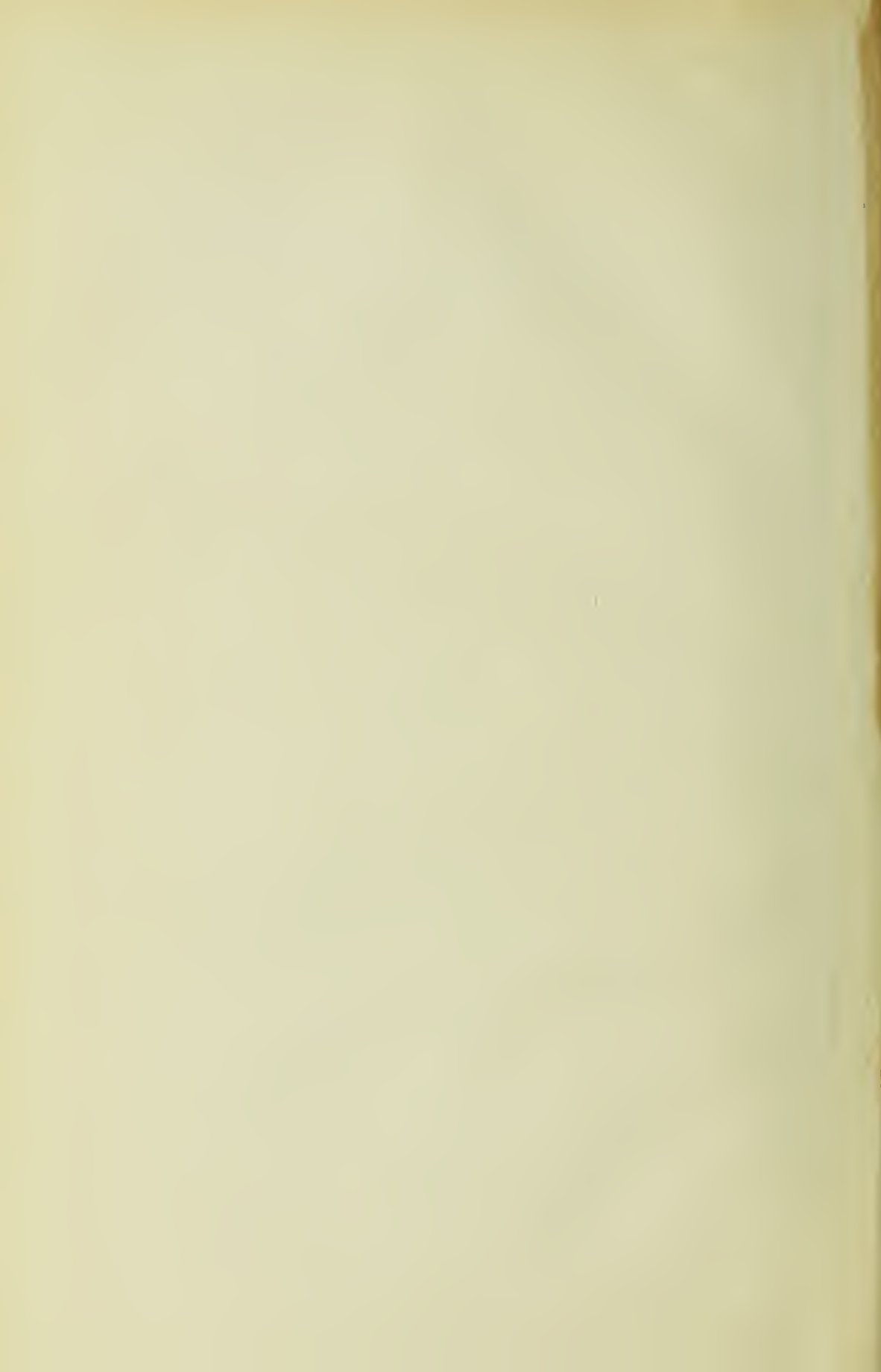
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TRACHEOPLASTIC OPERATION FOR CHRONIC ENDOCERVICITIS.*

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OKLAHOMA CITY, OKLAHOMA

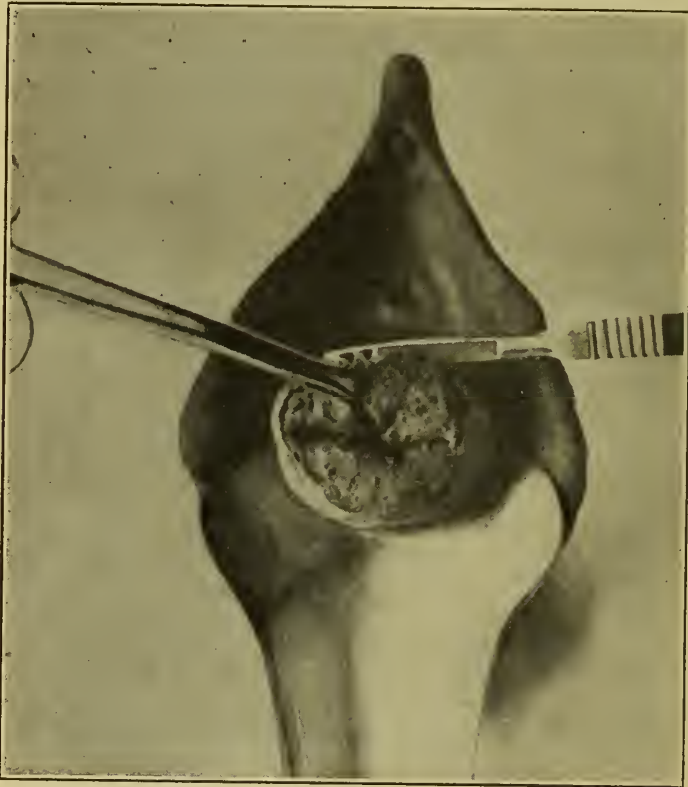
Chronic endocervicitis is the most prevalent, the most often observed, the most misunderstood, and the most mistreated of all gynecological disorders. It has been recognized as a concrete clinical entity for more than a hundred years. Nevertheless, our modern textbooks still consider its therapeutics under the head of medical gynecology, whereas it is as distinctly a surgical lesion as is an osteomyelitis or an infected appendix.

At the very outset, I wish to make a clear and emphatic distinction between a lacerated cervix and an infected cervix. A nullipara, or a virgin, may be afflicted with a severe chronic endocervicitis, while a woman who has borne many children may have a cervix that is absolutely healthy. Furthermore, we must keep clearly in mind the anatomical and physiological difference in structure and function of the cervical mucosa from that of the corporeal endometrium. Physiologically, the cervical canal is simply a channel of communication between the vagina and the uterus. Its chief functioning tissue is made up of deeply penetrating racemose glands which simply secrete mucus. It does not undergo those changes which take place in the corporeal endometrium during menstruation or decidualation. Contrary to popular belief, there is no sphincter muscle at either the external or internal os. Whatever of semblance there may be to a sphincter is due to the spiral arrangement of the muscular fibers from their beginning in the uterine cornu to their insertion in the fibrous cervical tissue. Another popular fallacy is the belief that the cervical mucosa is seldom infected and that the endometrium is the site of easy and frequent infection, when just exactly the opposite condition prevails. In fact, the cervical mucosa could very appropriately be termed the "tonsil of the uterus," and all ascending infections of micro-organisms find in it their first abiding place before reaching those structures which lie beyond. And just as the laryngologist has come to recognize the chronically infected tonsil as the primary and sole cause of that aggregation of pharyngeal symptoms, which are now more or less familiar to us all, so do I believe that the gynecologist will come to recognize the chronically infected cervix as a distinct pathological condition, manifesting its own peculiar symptoms, and producing a train of pelvic, and even systemic ills. A chronic endocervicitis is just as much entitled to be recognized as a primary focus of in-

*Lack of space prohibits inclusion of eight illustrations showing various pathological conditions incident to this article and preliminary to the technic offered as corrective of them. They will appear in full in the Author's reprint of this paper—Ed.

fection as the gums, the tonsils, the gall-bladder, the appendix, and the nasal sinuses.

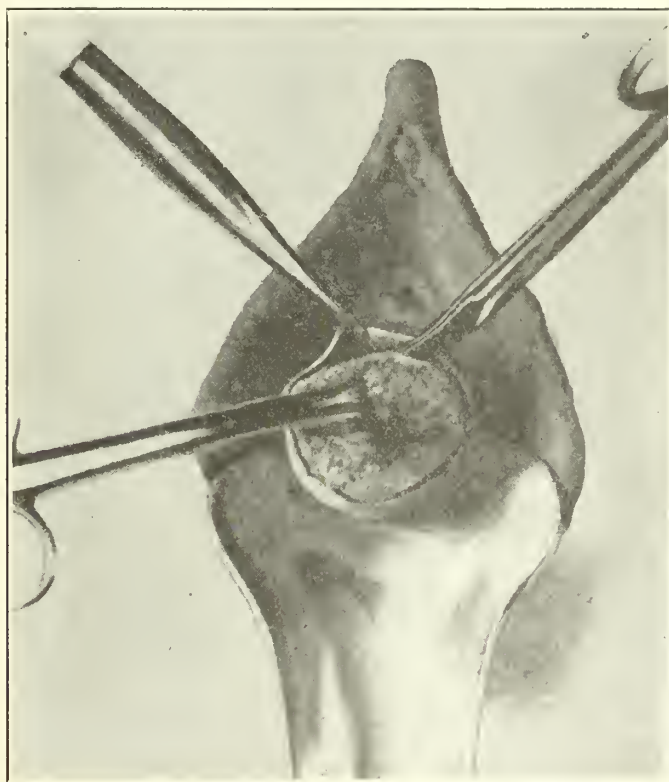
In order to better appreciate the foregoing statement, let us consider for a moment the lymphatic circulation of the uterus. It has been nearly fifty years since Leopold established the normal uterine lymphatic circulation, and yet, barring its disseminating role in malignancy, the domination of this element in the general pathology of gynecological infections has been practically ignored. Leopold established the fact that the uterine lymph current may be traced from its lacunar origin in the cervical and corporeal mucosa through minute funnel-shaped ostia, directly to the myometrium. Here it branches into an extensive



Tracheloplasty (author's method). Outlining the edge of the flap on the vaginal sheath of the cervix along the demarcating line between the normal vaginal and diseased endo-cervical mucosa in a case of infected bilateral laceration.

capillary net which, spreading over the muscle sheaths, penetrates and enmeshes every bundle of the uterine musculature, whence it drains into two main collecting channels that travel parallel to the uterine and ovarian blood-vessels at the base and top of the broad ligament. Therefore, an infection of the cervix does not travel by continuity of tissue to the endometrium but finds its way upward as an infecting lymphangitis which affects the entire muscle body of the uterus and may extend out around the tubes and even envelop the ovary to the extent of interfering with the rupture of the graafian follicle, bringing about that cystic condition of the ovary so often observed, together with the possibilities of a pyosalpinx, hydro-salpinx, and the various pathological conditions found in the adnexa, whose etiology

has heretofore been so little understood. Furthermore, this chronic lymphangitis, which prevails throughout the body of the uterus, offers a plausible explanation of the pelvic discomfort, the postcoital cramp, commonly called "womb colic," and the dysmenorrhea, which is almost universal among these patients. Furthermore, the mucopurulent leukorrhea of these women explains the sterility that prevails among them, for undoubtedly a chronic infection of the cervix is much more often a cause of sterility in nulliparous women, besides the one child sterility, which so often prevails. The spermaticidal effect of a diseased cervical mucosa has been thoroughly studied by Reynolds, who, utilizing Huhner's postcoital method for the observation of spermatozoa aspirated from the cervical cavity,

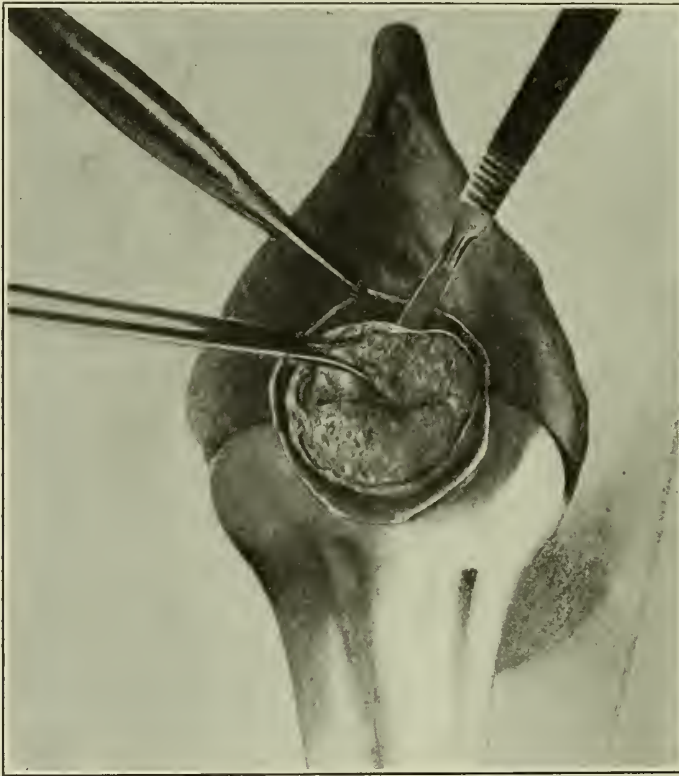


Tracheloplasty (author's method). Mobilization of the cylindrical vaginal flap to the vaginal fornices.

states: "It is extremely interesting to see how actively mobile spermatozoa progress across the field of the microscope in a cervical secretion of grossly normal appearance, until they come in contact with some clumps of pus-cells, with which the tail of the spermatozoon becomes entangled. The result then is that it indulges in futile struggles to escape, by the violence of which it becomes exhausted, and in a few minutes gives up the struggle and lies still."

And finally, in discussing the end results of a chronic endocervicitis, we must mention carcinoma of the cervix. It has been thoroughly established by competent observers that "chronic catarrhal endocervicitis precedes cancer in the great majority of cases and the cervical erosion is the most definitely established lesion known to initiate cervical carcinoma."

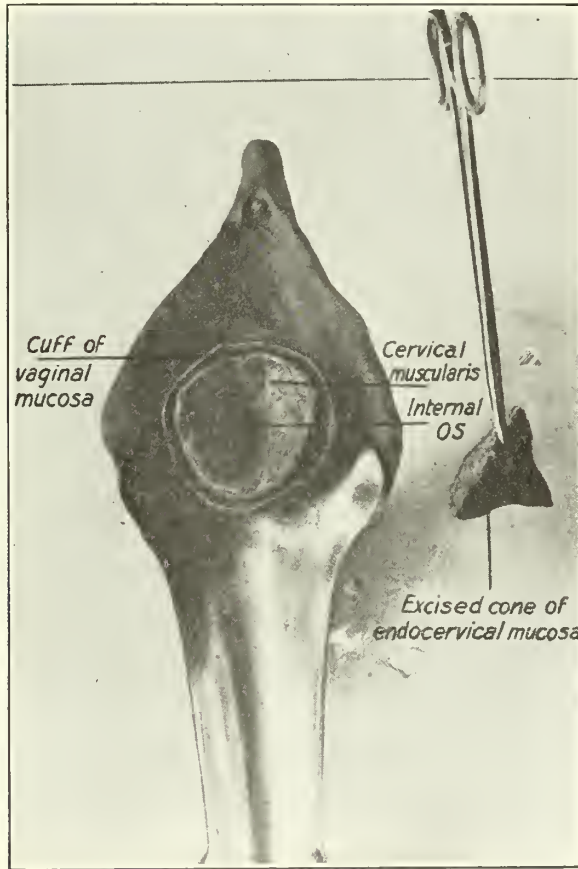
The subjective symptoms of a chronic endocervicitis are very indefinite and such as may be common to a number of pelvic disorders. The chief complaint of the patient will probably be persistent leukorrhea, which does not yield to any form of vaginal douche, or local application. Almost invariably there is more or less dysmenorrhea, although the menstrual flow may be entirely normal. Sterility is the rule rather than the exception. Then there is a vague pelvic discomfort, which may amount to little or much according to the degree of infection which has taken place in the lymphatics. The objective symptoms are obvious and easily recognized upon inspection of the cervix. The nulliparous cervix retains its conical shape, but presents an inflammatory area encircling a small pouting os from which



Tracheloplasty (author's method). Excision of endocervical cone, the knife directed towards the internal os.

there exudes a tenacious mucus. The multipara will show one or more lacerations of greater or less degree, and in both there will be an area of tissue which appears granular and is commonly called eroded, but in reality is covered with a thin layer of epithelium. In the more severe cases the entire cervix may be filled with nabothian cysts which, in their development, brings about an hypertrophy which may enlarge the cervix to twice its normal size. This infection may have taken place in early childhood, or even infancy, which fact throws much light upon many of the gynecological disturbances which take place in virgins. The patient herself may have no recollection as to the time when the infection took place. The gonococcus is by far the most frequent infecting organism and yet we find streptococci, staphylococci, and colon bacillus, occurring in the order enumerated.

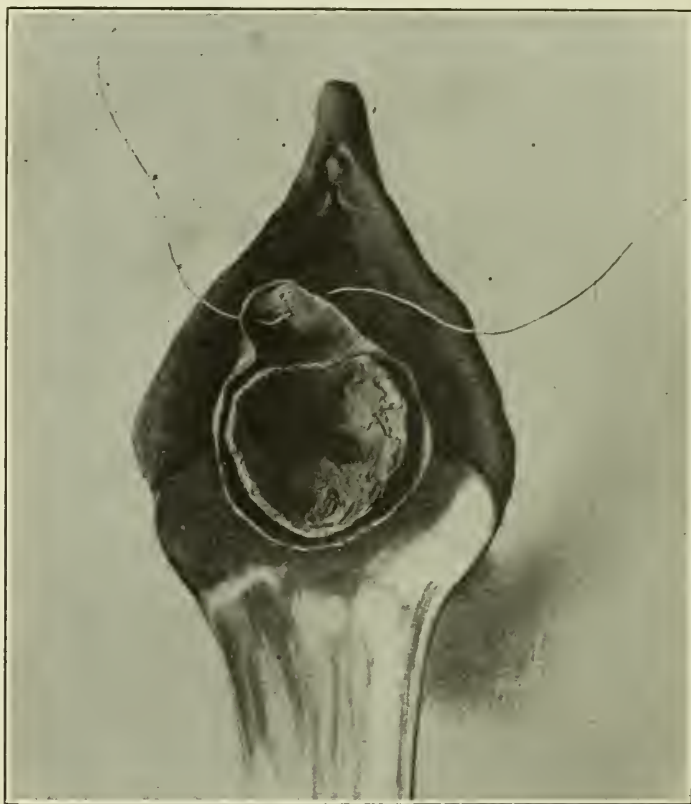
Having made the statement that chronic endocervicitis is exclusively a surgical problem, I wish to add further that I believe the time is now at hand when anyone treating this condition by any form of application or cauterization, will be placed in the same category as those who endeavor to treat a chronically infected tonsil in any way except by a tonsillectomy. Ambrose Pare first advocated amputation of the cervix, and Osiander in 1802 published the method of operative procedure, after having performed it a number of times. The operation was performed by means of the bistoury, scissors, the ecraseur, and galvano-cautery; the latter method was perfected by John Byrne, of Brooklyn. All of these methods



Tracheloplasty (author's method). Denuded funnel of cervical muscularis, excised cone of endocervical mucosa, and loose cylindrical flap of vaginal mucosa.

left an uncovered raw cervical stump to heal by granulation. The first plastic amputation of the cervix uteri, in which a cuff of vaginal mucosa was used as a stump covering, was performed by Marion Sims in 1861, and a year later Emmet performed his first successful trachelorrhaphy. In a simple cervical laceration, which has not become infected, the original operation, as performed by Emmet, has proven entirely successful, has never been improved upon, and is today the operation of choice. But a simple trachelorrhaphy does not and cannot cure a chronic endocervicitis, for the simple reason that it does not remove all the infected tissue. There has been many modifications proposed for the ordinary circular

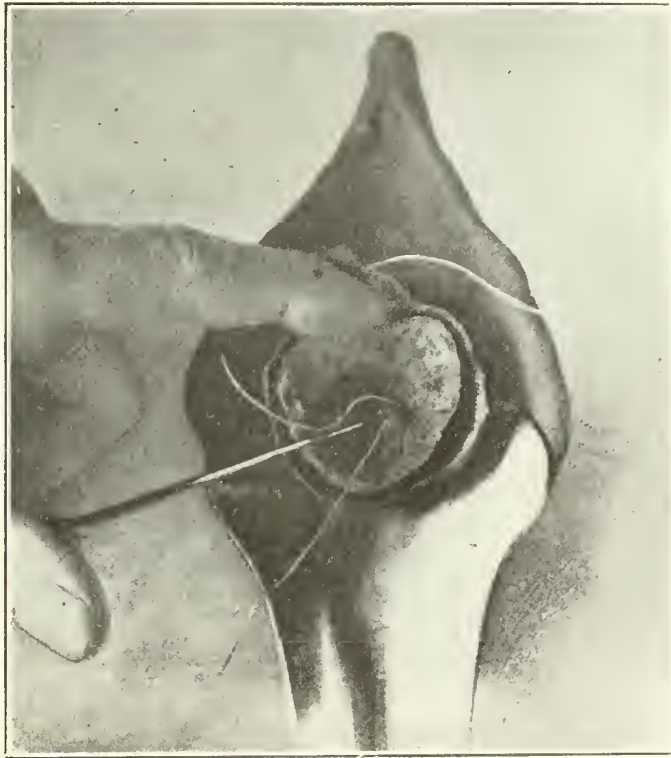
amputation, each of which was intended to remove more of the infected tissue and at the same time not leave so much of a circular scar as to interfere with the progress of future deliveries. I think that any form of operation which endeavors to use the endometrial edge of the cervix as a part of the flap, will always be disappointing, on account of the extreme friability of this tissue, permitting the sutures to tear through before there can be union, leaving a raw cervical stump which must heal by granulation—usually becoming reinfected. The best operation that has been devised is that advocated by Sturmdorf, and whose technique is as follows: "A weight speculum is introduced into the vagina, so as to expose the cervix, which



Tracheoloplasty (author's method). Silkworm strand passed transversely through the vaginal surface of the anterior flap segment, $\frac{1}{8}$ of an inch from the edge, embracing $\frac{1}{8}$ of an inch of tissue.

is caught within the infected area by a tenaculum and drawn well into view. Then with a knife, a circular incision is made just within the edge of the healthy mucous membrane, which outlines the cuff or flap which is to be used for the covering and relining of the cervical canal. The cylindrical flap thus outlined is dissected up to the level of the internal os, then with a long-bladed sharp knife the infected cervix is cored out and removed. The cervix now presents a muscular funnel within a deep cylindrical sheath of vaginal mucosa. The next step is to cover over and invert this cuff into the denuded cervix. A heavy silkworm gut, or number three chromic catgut, is passed through the anterior vaginal surface from within about one-eighth of an inch from the edge and about one-eighth of an inch to the

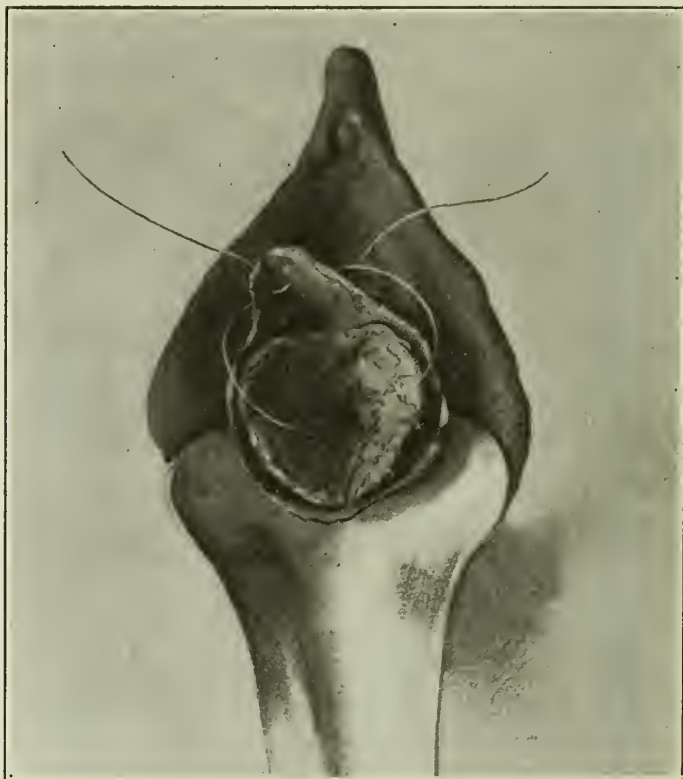
right of the median line, then continued across and out at the opposite side in a corresponding situation. This suture is permitted to hang free until a like suture is passed in the same manner through the edge of the posterior section of the flap. The right free end of the anterior suture is then threaded on a Peaslee needle, or a long heavy cervical needle, and is carried into the cervical canal to the level of the internal os, whence piercing the cervical musculature in a direction forward, upward, and slightly to the right, it emerges on the vaginal surface at the base of the flap. The left free suture end is directed in the same manner; forward, upward, and to the left, so that the two suture ends, diverging slightly in their course



Tracheloplasty (author's method). Introducing the right free suture-end into and slightly above the internal os on a double curved needle, whence it is passed upward, forward and slightly to the right through the musculature to emerge at the base of the flap in the anterior vaginal fornix, $\frac{1}{8}$ of an inch from the median line.

reappear in the center of the anterior vaginal fornix about one-fourth of an inch apart. The free ends of the posterior suture are passed in corresponding posterior direction and emerge in the center of the posterior vaginal fornix. By tightening and tying each individual set of suture ends, the tubular vaginal flap is drawn into the denuded cervical cavity, thus relining its entire raw surface. Additional sutures are usually unnecessary, but one or more may be inserted at each lateral angle if further coaptation is needed. A narrow strip of iodoform gauze, introduced into the cervix with the object of maintaining flat coaptation of all raw surfaces, completes the operation. This gauze is removed on the third or fourth day, when the patient is permitted to walk about. If chromic catgut sutures are used,

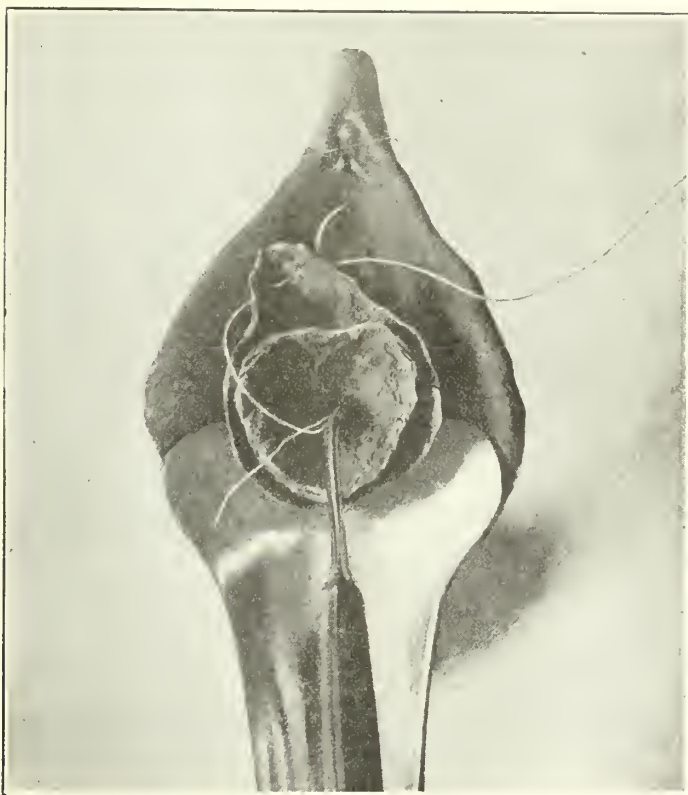
their removal is unnecessary, but the silkworm gut should be removed at the end of the third week, when they will be found loose and accessible. The specific features of the operative method thus outlined effect the complete elimination of the infectious focus by extirpation of the diseased cervical mucosa, preserves the normal arrangement, contour, and functions of the cervical canal."



Tracheloplasty (author's method). Needle, carrying the right free end of the anterior suture, emerging on the anterior vaginal fornix at the base of the flap.

CALIPER EXTENSION.

J. E. Cannaday, Charleston, W. Va., Camp Sherman, Chillicothe, Ohio (*Journal A. M. A.*, Oct. 25, 1919), points out the defects of the caliper as it has been used in surgery to secure traction. It has sharp slender points which may penetrate the bone too deeply with one point while the other is loosened, or both points may enter the spongy bone. With the caliper handles in line with the femur, as is the rule, the full extension of the leg at the knee is prevented. Cannaday has made a pair of calipers intended to be used in a vertical position. The points are blunted and slant toward the front so as to give a proper pulling angle. Each is equipped with a guard ring, allowing only one-fourth inch of the point to enter the bone. "At the angle formed by the junction of the base of the caliper point and the handle, a traction ring has been attached, and above, on the handles, a locking device in the shape of a hinged cross bar with a set screw. This not only holds the caliper points securely in contact with the bone, but also precludes the possibility of their becoming loosened from their hold on the condyles of the femur."



Tracheloplasty (author's method). The left free suture-end passed in a direction upward, forward, and to the left. Both ends emerging on the anterior vaginal fornix at the base of the flap, $\frac{1}{8}$ of an inch from the median line.

See article by Dr. J. M. Alford.

MISTAKES IN DIAGNOSIS.

J. R. Pennington, Chicago (*Journal A. M. A.*, Sept. 27, 1919), calls attention to the frequent mistaken diagnoses largely due to neglect of complete and especially of proctologic examinations. He gives a number of instances with misleading symptoms, the true nature of which was accounted for by such thorough examinations and in some cases by the Wassermann tests. He says many other examples could be cited to show that while one may limit his practice to a certain specialty or region of the body, his treatment should be based on a thorough and complete examination of all the organs and also the habits of his patient. He says a gynecologist would not dream of treating disease of the pelvic organs without the use of a speculum, and it is his firm belief that the use of the proctoscope is equally imperative, and that the gastro-intestinal tract and rectum should be more frequently and systematically examined.

One man in every three was rejected by drafts boards for physical disability. According to the United States Public Health Service, a great many of these defects might have been eliminated and probably will be in the next generation.

Give your physician a chance to keep you well before you call him in to cure you, advises the United States Public Health Service. An occasional thorough examination by a competent physician will save you money and prolong your life.

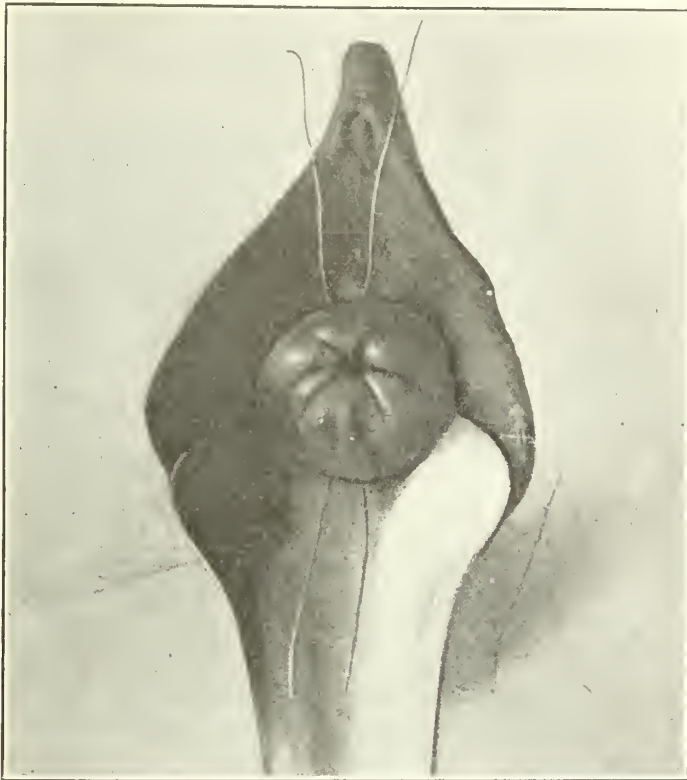


Tracheloplasty (author's method). Traction on the two anterior suture ends draws the anterior vaginal flap segment into the cervical cavity, and approximates its edge to the circumference of the denuded internal os.

See article by Dr. J. M. Alford.

IODIN TINCTURES.

Torald Sollmann, Cleveland (*Journal A. M. A.*, Sept. 20, 1919), remarks that certain proprietary preparations of iodine have been claimed to have less irritating action than the official tincture and, since they are more or less secret in composition, he has devised a nonsecret preparation of the same character, by the use of hydrogen iodide, the details of which will be published in a pharmaceutical journal. He gives a table of the percentages of free iodine (including HI) and relative acidity of U. S. P. tincture, his own new formula, and two of the widely advertised proprietary preparations, Burnham's Soluble Iodine and Surgodine. Tests were made of all these, which showed that Burnham's preparation was more irritant than the U. S. P. tincture, but the differences were slight. Investigation was made as regards the precipitation of proteins, which probably applies to the irritant action of iodine. Sollmann finds that potassium iodide of the official tincture has a restraining action on the coagulation of albumin. The presence of potassium iodide does not seem to render it more irritant, but probably would make it more suitable for the disinfection of open wounds than the secret or non-secret water-soluble tinctures.



Tracheloplasty (author's method). The anterior and posterior sutures drawn taut and tied, flap in place, lining the cervical cavity to the internal os.

See article by Dr. J. M. Alford.

WAR FRACTURES.

While, during the war, a vast number of fractures have been treated by various methods, the advantages of a standard method are indisputable, according to J. B. Walker, New York (*Journal A. M. A.*, Sept. 6, 1919). Many surgeons cling to discredited methods, and Walker hoped to present evidence that would convince them of their error. The need for improvement is shown by the fact that among the men examined for the last draft there were found 23,338 suffering from malunion of fractures. The statistics, in hospital records, do not show the desired results from treatment, and it is to be hoped that the War Department will take measures to render its valuable records available. Many hospitals suffered from lack of equipment, and fifteen specially equipped hospitals, with a qualified personnel, were designated as those to which all patients in cases of fracture of the long bones should be transferred. It was not permitted that this arrangement should apply to patients already under treatment, and only such fresh patients as arrived from overseas were thus transferred, while the request for the transfer of patients in peripheral nerve cases to eleven designated special hospitals was approved. Osteomyelitis has been the most serious complication of fractures and has occurred in at least 50 per cent. of the cases. The statistics of such cases treated are given, and it is believed that the figures will be increased by further data. It is too early to give end-results, but it may be useful to record some general impressions gained. For the transporting of the patient from the field, the Thomas or Blake-Keller modification is unquestionably the best type of splint, and during the period of infection of a lower extremity, the Thomas or Hodgens splint, with the Balkan frame and extension by suspension and traction, has given the best results. During 1917-1918, there has been a great increase in the use of the caliper. For humerus and elbow fractures, the Thomas arm splint, with the Balkan frame and sufficient extension, has been most satisfactory. In a large majority of hospitals, measurements have been neglected. Tape measures are as essential as thermometers. Too few roentgenograms have been taken regularly, and bad end-results are often due to neglect in carrying out recognized methods. Young, able, alert surgeons with good hospital experience will have splendid future opportunities in this work.

SOME PERSONAL OBSERVATIONS ON FRACTURES.*

FENTON M. SANGER, M. D.

OKLAHOMA CITY, OKLAHOMA

We believe that during the past three years the surgeons of the United States have paid more attention to fractures and other injuries to bones and joints than they did in any previous twenty-five years.

Our Government recognized the importance of this branch of the medical service in the army, and the better to meet these demands, it selected several hundred of its medical officers to go to the different surgical centers and take intensive training along these special lines. Not only did our Government train its men in bone work, but it selected men to take special work in all the various branches of medicine and surgery.

Here we received didactic, laboratory and clinical instruction from the most elementary up to the most complete technical detail of the world's advancement in the science of medicine and surgery; possibilities which only the horrors of war had developed. It was our privilege to attend one of these army courses for three months last year.

In this paper I wish to note some personal observations on fractures as seen especially in the army.

The first is a fracture of the surgical neck and dislocation of the humerus at the shoulder joint. This fracture occurs below the tuberosities. Often there occurs much displacement of the fragments, and also great error of alinement. To have the alinement correct, we know to be of paramount importance in the treatment of all fractures. Should we allow the two fragments to unite at an angle to each other, or even with a rotational discrepancy, the working results of this limb will be about as true as a pair of wheels working on a twisted axle. Put these wheels on a straight axle and they will go round true. It matters none how many patches there may be in this axle so long as it does not interfere with any working part. Thus it is with a fractured limb. If the alinement is true, the line of pull or action of the muscles in relation to the joints will result in a good function. The fact that there may be local projections and irregularities makes no difference, so long as these irregularities do not interfere with nerves or muscles, or in the case of fracture close to a joint, do not result in a mechanical block to free movement.

From a clinical and radiographic examination of recent cases exhibiting deformity, we observe that the upper fragment is adducted by the muscles that are attached to the great tuberosity, and that this upper part is rotated outwards. Also we observe that the upper end of the lower fragment is drawn toward the body or trunk by the action of the pectoralis major, teres major, and latissimus dorsi. All of which muscles are internal rotators as well as adductors.

We notice also that this lower fragment is further pulled up by the action of the biceps and the deltoid against the inner aspect of the upper fragment, which increases the deformity.

If we cannot put the upper fragment into line with the lower, we must put the lower into line with the upper. This fracture is more often of the surgical neck than of the anatomical. We realize that it is a most formidable condition to treat, since the functional result is many times not satisfactory to the surgeon or the patient. This luxation is most often of the anterior type.

In addition to the above irregularities noted, we observe a limpness of the arm, abnormal mobility and crepitus. These all point to a diagnosis of fracture. We must not overlook the fact that the head is absent from the glenoid cavity. Hence we should never fail to examine the region immediately under the acromion. An x-ray is most necessary. We have learned that manipulation of the arm has no effect on the position of the head.

*Read in Surgical Section, Annual Meeting, Muskogee, May 21, 1919.

The ancient practice was to allow the bones to unite in situ, and later to attempt reduction. This usually gave a very poor result to the patient.

We have developed only two lines of treatment: (a) Manipulation, (b) Open operation.

(a) Manipulation carefully and correctly performed under general anesthesia often is successful. We may fix the patient with webbing straps and have an assistant extend and adduct up to the extreme limit of placing the arm parallel to the head. This movement puts the shaft of the humerus fully out of the way, and at the same time pulls the pectoralis major up out of the way. At the same time the surgeon with his fingers makes direct pressure on the displaced head, and thus he usually is able to roll it back into the glenoid cavity.

Our next step is to reduce or place in proper alinement the fractured humerus. If we make traction on the arm in the action of humerus, gently adducting and rotating the arm outwards until we bring the arm at right angles to the body, or even directly upwards in a line or parallel with the head, we shall disengage the lower fragment from the inner side of the upper fragment. In which position we bring the line of traction of the pectoralis major, latissimus dorsi, and teres major in line with the action of the shaft, and hence these muscles no longer produce a lateral distorting action.

With the assistant still extending the limb as above, with our hands we are able to perceive when the bones disengage. We then have the assistant relax his pulling on the limb, and at the same time we endeavor to guide the ends so that they unite end to end. After the ends have engaged, we can often press them together and make them lock sufficiently so that we can bring the arm down to the side slowly and gently, and with a pad in the axilla securely fix the arm to the body, at the same time bending the elbow to an angle of 45 degrees and supporting the wrist with a sling from the neck. We should perform these movements with gentleness and judgment lest we injure the nerves and vessels in this region.

It has been our experience that when this maneuver is successfully accomplished the ends will nearly always remain correctly engaged, and all that is needed further is to wait for union and then gradually to begin active and passive movement.

In two of these cases we had after reducing the head back into the glenoid cavity, we discovered that the line of fracture was such that the fragments would not lock properly, and therefore would disengage when the arms were brought down to the sides, so we had to fix these arms in the adducted position. In which adducted position we place the line of traction of the pectoralis and latissimus dorsi practically with the axis of the limb, and so these muscles will only pull the ends of the bone towards each other, instead of laterally, and in this position the fragments will usually not slip. We then swathed the whole arm, shoulder, and upper limb in one layer of cotton wool. We have found that it is best to roll up a whole length of cotton wool and put it on like a bandage. Over this we apply a plaster bandage to the arm and upper part of the chest, at the same time we rub it in firmly around the shoulder and axilla around the bony points of the elbow.

Now one or two observations of the lower limb.

The army recommended very extensively the use of the wire splints as advocated by Sir Robert Jones, Inspector of Military Orthopedies in the British Army. In many cases the wire splints are all that could be asked, especially the adduction frame in fracture of the neck of the femur. But in most cases we are partial to the plaster splint. For when it is put on properly one can sleep with a clear conscience and know that the parts will stay where they were put.

In all injuries of the femur above the small trochanter, any deformity or malunion that very often occurs is determined to a great extent by the shape of the bone and direction of the pull of the muscles that cross the hip-joint.

When one stands in the erect position, we see that the axis of the neck of

femur is inward, forward, and upward, and at the same time the shaft sweeps in a curve downward and slightly directed inward to the knee.

When one stands with the feet two inches apart, a vertical line passing through the middle of the head of the femur passes down almost through the middle of the knee joint, and on down through the middle of the ankle joint.

When there is a lesion about the neck of the femur, the muscular contraction tends to cause a diminution of the natural action of the neck of the shaft of the femur (a coxa-varoid deformity) and at the same time the adductor muscles tend to adduct the femur shaft. We have found out that the most effective way of obviating this oblique action of the muscles is to make extension in the adducted position. We have found that weight and pulley extension is very inefficient as a means in fixing fractures, for whenever the patient moves in the bed he alters the pull of the muscles that cross the site of the fracture, and at once this excites a reflex contraction which causes a disturbance of the fracture and starts up pains. Therefore with the weight and pulley extension the muscles never come to rest.

When we use fixed extension with counter extension from the tuberosity of the ischium of the same or the opposite side, muscular contraction and relaxation is impossible. Hence these muscles soon become quiescent when this method of extension is applied.

This fracture of femur above the small trochanter can easily be diagnosed if the following points are taken into consideration: 1. If we grasp the trochanter major between the thumb and finger, we perceive that it is nearly always broader than its fellow. 2. If the fracture is an impacted one, the shortening is not great, but if it is free, this shortening may be one and a half inches or more. 3. We also notice that the trochanter rotates on a shortened radius. 4. We also usually observe some eversion.

On being assigned as chief of surgical service in one of the U. S. Army general hospitals, I found a case of a simple comminuted, non-impacted fracture of the base of the neck of femur, already of eight weeks standing. This was put up in a Hodgen's splint with a weight. Because the surgeon in charge of that ward was very partial to this method of treatment, we did not change it. Eight weeks after I first saw this case the fractured ends of the bone were found gliding on each other and there was one and a half inch shortening. We immediately ordered the patient got ready for the anesthetic the following morning and applied a plaster cast from the cartilage of the eighth rib to the proximal ends of the toes of the affected limb, with the hip joint extended and adducted to 45 degrees, the foot slightly rotated inward and dorsiflexed to a right angle with the leg. Two weeks after we applied this cast patient was walking with a crutch. This cast was kept on exactly eight weeks, and the day it was removed the patient got up and walked without any crutch. There was absolutely no shortening in this case.

We used to dread the treating of a Pott's fracture with the old Dupuytren's splint.

This fracture should be reduced at once regardless of swelling or bruising, and after the swelling has subsided apply a plaster case, whether simple or compound fracture, with the foot dorsiflexed to a right angle or more and inverted, or in the varus position. We apply the plaster cast from about the middle of the femur to proximal end of toes, and we know that the parts will stay in this position. The patient gets up on crutches, often in a few days, and in simple fracture, after two to three weeks, we allow him to begin to walk on this foot. We like to keep the foot and leg in the cast six weeks and when we remove the cast the boot of the patient should be modified so as to keep the foot slightly in the varus position for several weeks.

In this paper we have observed only some of the fractures that should easily be handled by the general practitioner.

In using plaster casts we advise to get a good plaster-of-paris in the bulk, and to make up your own plaster bandages. These will last and be serviceable for an indefinite length of time, and use cold water and no salt.

TREATMENT OF OPEN WOUNDS.*

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There has been so much said and written relative to the case of open wounds, within the past few years, that one hesitates to renew the subject, but since the treatment has been completely revolutionized, we feel that it may be worth considering.

It has only been a short time since we were taught to deluge all wounds with tincture of iodine, make ample provision for drainage, and repair the severed structures, which constitute the entire treatment; but now, as much as we think of iodine we no longer depend on it to sterilize a mass of devitalized tissue, in fact we feel that its application direct to an open wound only adds to the devitalization of the cells, and that its antiseptic value in this role is nil. Nor do we believe that there is any other known chemical that we can look to as being of any great value in the treatment of open wounds. How, then, shall we proceed with them? One of the great lessons the war has taught us is to make use of mechanical sterilizations. An open wound is covered over with sterile gauze until the patient can be undressed and the surrounding tissue cleansed, the neighboring field is then sterilized with iodine, being careful not to allow anything to come in contact with the wound. The patient is then anesthetized and all the devitalized tissue is excised, being careful not to encroach upon the healthy tissue, but also using care that no scraps of devitalized tissue are left. This done, the wound is closed by direct suture without drainage. It is then dressed with dry gauze, the parts are immobilized and the pain is controlled with morphine.

This all sounds simple enough, but there are many things to consider in connection with these cases. First, the general condition of the patient. If he is in shock he should be put to bed at once, and treated for this until he has thoroughly reacted, without giving the wound any consideration, more than to inspect it for hemorrhage and to protect it with dry sterile gauze. No patient should be operated during shock under any consideration, except in the case of hemorrhage, which should be controlled in the most simple way and the patient given a chance to react before any other work is undertaken. It is the consensus of opinion that an injury case should never be operated upon when the pulse is above 120, a pulse of 100 giving one a much wider margin of safety.

When is the best time to operate? The earlier the better; from six to eighteen hours from the time of injury is the ideal time. But there is ample evidence to justify one to practice this method of mechanical sterilization and direct suture up to 36 hours from the time of injury. After this, it is better to clean the wound out as we have described, pack it with dry gauze and defer the suturing for four or five days, until we can determine whether suppuration is going to take place. At the end of this time the packing is removed and if the wound is clean it is then sutured. Some surgeons prefer this method of delayed suturing in all wounds, but the consensus of opinion favors primary suture except in cases seen late, or where the general condition renders delay advisable. When the packing is removed, should the wound show signs of infection it should then be treated as an open infected wound by the Carrel-Dakin method, or some modification of it. We prefer to use a solution of hyclorite, which is put out by the Hyclorite Laboratory, Madison, Wis., as it is more stable. And instead of the continuous drop we simply place the perforated tubes at the bottom of the wound and pack our gauze around them as described by Carrel, and inject five to ten c.c.'s of this solution through each tube every hour or so with an ordinary Luer syringe which eliminates a lot of

*Read in Surgical Section, Annual Meeting, Muskogee, May 21, 1919.

bunglesome apparatus, and has proven to be just as efficacious and far more practical to use.

WOUNDS WHICH REQUIRE SPECIAL CONSIDERATION ON ACCOUNT OF THE STRUCTURES INVOLVED.

There are also many wounds which require special consideration on account of the structures involved. First, injury to large blood vessels may bring up the question of amputating the limb on account of deficient blood supply, but we are seldom justified in doing this until ample time has elapsed to assure us of the necessity, as there is nothing lost by waiting, and often we are very agreeably surprised by doing so. Second, we should examine every patient with a view of determining any nerve injury by having them flex, extend and rotate the limb, for, if a nerve is severed it should be sutured during the process of primary repair, and the same is true of muscles and tendons.

Open wounds communicating with the spinal cord are rare, but when they do occur they are of the gravest character and should have careful consideration. The patient should be placed on his face, anesthetized, and the wound cleansed as before described, all spicules of fractured bone and any foreign body should be removed and the wound closed by primary suture, but it is useless to attempt suture of the cord itself, as it only adds to the trauma without favoring a functional or anatomical recovery.

Scalp wounds with fracture complicating are among the common types of injury frequently met with in every day life, and I regret to say that they are often mismanaged. The hair surrounding the wound should be removed by clippers or scissors, which is easier and better than shaving. The scalp wound should be cleansed by mechanical sterilization and in every wound of the head, the bone should be carefully palpated for fracture by inserting a small pointed instrument through the wound and searching in every direction for roughened and irregular areas, and if we are not thoroughly satisfied with this the wound should be freely enlarged if need be, and the edges retracted until the question of fracture can be definitely settled. Particular attention is called to this for it has recently been my lot to reopen two such wounds on account of depressed fracture that has been overlooked. One cannot depend on the symptoms of pressure as outlined in our textbooks, for shock will often counteract the effect on the pulse in the early stages, and many times the focal symptoms are entirely absent. When fracture is present it should be elevated and the wound closed by primary suture. Perforated wounds involving brain substance should be treated in the same way.

Wounds communicating with compound fractures should be cleaned in the same way, enlarging the original opening when necessary. The fragments are then brought in apposition and the wound closed, without drainage. A plaster cast is then applied. *But one should never neglect to split the cast so that it may be pried apart for swelling.* It is not wise to introduce foreign materials such as screws, nails, or Lane plates, in a compound fracture, or to attempt any radical bone operation at this time. It is better to depend on external appliances even with a view of doing a secondary operation at a later stage.

Wounds communicating with joints should be handled on the same general plan. It is better to enlarge the original opening, when it is required, rather than to work through a small incision. The interior of a joint cavity should be carefully inspected and all foreign bodies removed. Blood clots should be cleaned out and any spicules of bone present should be removed. The capsule should then be carefully sutured and the wound closed without drainage. The joint should be immobilized preferably by a split cast, or plaster splints, but these should be removed as soon as healing is assured, which is usually in from two to three weeks, and gentle passive motion and massage practiced, which is ordinarily best done by the patient himself under the supervision of a surgeon.

Wounds communicating with the bladder should be mechanically sterilized

and the bladder wall sutured with two layers of fine chromic catgut, and the wound closed primarily, except in these cases we prefer to place a small cigarett drain down to the bladder wall to prevent extravasation in case of a leak, but we do not believe in the use of retention catheters so widely practiced. The patient will usually void, and if he does not, he can be catheterized every eight hours with much less trauma or danger of infection than the retention catheter produces.

Wounds communicating with the abdominal cavity may or may not involve the viscera, but whether they do, or do not, no one can say until sufficient time has elapsed to materially reduce the prospects of recovery in those that have involvement. Knowing this, we should make haste then to explore every belly that has been perforated by an external wound, and search for perforated viscera, which must be dealt with according to the extent of the injury, remembering as a general rule that there is much less danger in suturing a number of small perforations than a resection, but one must not hesitate to do the latter when it is clearly indicated. But, in cases in poor general condition from loss of blood or shock, one can bring the damaged loop up and stitch it to the abdominal wall, thus making an artificial anus, and postponing the resection until the patient is in better condition. This is especially applicable where the injury is confined to a loop in the lower part of the bowel. I am sure that many lives can, and have been saved, by resorting to this method. Here, we have not the courage to close without drainage. We feel much safer with a tube drain in the lower abdomen through a stab wound or the lower angle of our incision if it extends low enough, and I should have mentioned that we prefer to go through the original wound, after it has been cleansed by the mechanical process if it gives good access to the belly, otherwise make a new incision leaving the original wound to be cared for after the exploration is completed. These patients are put to bed in the Fowler position with continuous proctoclysis by the drop method, and are given morphin freely to control pain and peristalsis. Injuries to the solid organs of the abdomen usually take care of themselves and are often better left undisturbed, or simply packed with a little gauze to control the hemorrhage.

WOUNDS COMMUNICATING WITH THE CHEST.

It is here that the war has taught us another great lesson, and that is that we can open the chest cavity with the same degree of safety as that of the abdomen. In these cases, except possibly in clean bullet or stab wounds without any signs of hemorrhage, we think that our patient is insured of a much better ultimate recovery if we open the chest wide by resecting eight or ten inches of a rib, and exploring the lung for points of hemorrhage or foreign bodies, which can be safely removed, as has been proved by Devall and Monahan, and substantiated by many other men doing war surgery. But we do not remove them, simply for the reason that it has been demonstrated that it can be done, but, it has also been shown that practically all of them produce abscess formation, thus greatly endangering the life of the patient when they are not removed. Before closing, the pleural cavity should be sponged clean of all blood clots, any spicules of fractured ribs removed, and the wound closed without drainage by the layer method, that is, the pleural should be sutured separately, then the muscles, and finally the skin. In selecting the point of entrance, it is better to go through the wound of injury, when this is located so that it gives free access to the chest cavity, otherwise a clean incision is made, leaving the suturing of the wound until the operation is completed just as in the abdomen. The fifth, sixth, or seventh rib at the anterior axillary line is the point of election.

AFTER CARE OF WOUNDS.

It would be neglecting an important part of this subject, should I not say that by this means of treatment we only get primary union in about eighty per cent., and, to discuss the care of those cases in which we fail. The wounds are not disturbed for three or four days, and in those cases where the temperature and pain

subsides it is not necessary to disturb it at this time, so long as the dressings are not soiled, but, though we pay little attention to the temperature for the first three or four days, even though it runs up to 102 or more, if it does not begin to subside at the end of this time, trouble is suspicioned and the wound is inspected daily. But, pain is a more definite symptom than fever, and, if it does not undergo gradual improvement, but instead becomes a little worse each day, we may be fairly certain that pus is developing. However, if the temperature is not running high, and the patient's general condition is good, no more is done than to clip a stitch or two at the point of greatest tenderness, and wait a day so for it to seek the place of least resistance, then if it does not come through and the symptoms of fever and pain continue, a small forceps is slipped through the line of incision, to open up a small drain. But, instead of this mild course, which is usually seen, if the temperature continues to climb, the pain remains severe, and the patient begins to show signs of sepsis, by an increase in the pulse, slight perspiration, and an anxious expression, it may be known that we are dealing with a severe infection. In these cases it is better to remove all the stitches, lay the wound wide open, insert the Dakin tubes with pack and begin the modified Carrel-Dakin treatment, as has been briefly outlined above. By this procedure many of these wounds will clear up so that they may be again sutured after they are free from infection, thus conserving time.

There is another broad classification of wounds, and that is chronic open wounds, which I will not consider at this time; space will not permit; but, there are a few things that I wish to emphasize relative to the care of acute wounds; first, not as a part of the treatment *per se*, but a thing that the attending surgeon should look after, and that is that every wounded patient should have an immunizing dose of tetanus serum. Next, the wound should have enforced rest and the pain controlled, and I also wish to impress you with the fact that this is the crucial test of technical surgery. We have virulent pathogenic germs present, and the tissues are already devitalized from the trauma done them, and should be handled with the utmost gentleness. All operative measures should be done with the tips of instruments, and not with our hands. We should wear gloves and pride ourselves in not soiling them, or in other words, we should practice keeping hands out.

It is far better to delay all treatment of a wound other than protecting it by sterile gauze, until the patient can be transferred to a hospital or a suitable place, than to attempt to care for it before we are fully prepared.

Discussion.

Dr. W. H. Livermore, Chickasha: I think it is one of the greatest lessons we have learned from the war. First, leaving these wounds until we are prepared to take care of them. If we undertake to care for them before we are prepared to do so, it is much worse than if we did nothing at all with them. The next thing is the removal of the devitalized tissue—cleaning that out. I think this war has impressed these things upon us more than anything else. Living tissue will take care of itself. Infection is the thing we should bear in mind in treating these wounds and clean out dead tissue.

Dr. F. M. Sanger, Oklahoma City: I want to emphasize one thing that the doctor said, and that is, cleaning these wounds after primary treatment and removing all foreign matter or diseased or bruised tissue. After giving them proper treatment, leave them alone—treat them with dry dressing as much as we possibly can. We found this was far better than the open treatment and using antiseptic solution.

Beware the much advertised "sure cure" for disease, warns the United States Public Health Service. While experimenting, the disease often gets beyond the point where it can be cured by a competent physician.

CESAREAN SECTION.*

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Introduction: This subject may appear somewhat trite and rather old to some present, but the business of having babies is somewhat of an ancient institution itself, and so long as women have babies, so long should we direct our energies toward the amelioration of the suffering of the mother and strive to reduce to nothing if possible, maternal and infant mortality and morbidity.

Historical: Cesarean section is one of the oldest operations known to surgery, so old in fact that there is considerable doubt as to when and by whom the first operation was done. As is well known, postmortem cesarean section is almost as old as the human race, evidently preceding the age of any literature, as the subject is not only contained in the myths and folk-lore of ancient races, but is discussed on the stones of paleontological discovery in the ruins of Egypt. As early as 715 B. C., there is a Roman law commanding the removal of the child before burial of the mother.

Cesarean section on the living, however, is of much more recent date. While Trautman's case in 1610 was the first duly recorded and generally accepted one, there were unquestionably such operations done sporadically throughout Europe during the century preceding. About 1500, or eight years after the discovery of America, a Swiss swine gelder is said to have successfully delivered his own wife by laparotomy after all the midwives and barbers of the countryside had failed. From this time until about two decades prior to the beginning of the present century, the operation grew in popularity but still with a frightful mortality, which ranged from fifty to one hundred per cent. in different groups of collected cases. This mortality was due to utter lack of antisepsis as well as to the fact that the uterine incision was not sutured. In 1877, Porro, to avoid this almost total mortality, advised the supra-vaginal amputation of the uterus after delivery of the child. This operation, still popular in infected cases, bade fair to replace the conservative operation until Sanger in 1882 put it on a sound basis by his classical paper, which included among other details an extreme antisepsis and careful suture of the uterus incision.

Varieties of Operation: While the word cesarean section applies strictly to an abdominal operation, this paper would not be complete without mention of the so-called vaginal cesarean section, properly called vaginal hysterotomy. This vaginal operation is gaining in popularity and is an ideal procedure in cases operated upon some weeks before term, except of course in cases of contracted pelvis. But for an operative delivery from the time of viability to the end of the ninth lunar month, in cases of eclampsia and other toxemias, and abruptio placentae, the vaginal hysterotomy is the operation par excellence. There is but one technical difficulty in this operation, and that is the care necessary to protect the bladder, but to the careful man this is but a slight objection. The writer has seen two cases of abruptio placentae successfully delivered by vaginal hysterotomy at full term, but does not recommend it. The very apparent objection to this operation at term is that the operator, after incising the uterus, faces the delivery of a full term fetus by forceps or version, which may be anything but easy, especially in primipara.

The abdominal operation embraces three different methods; namely, the extra-peritoneal, including the so-called trans-peritoneal; the Porro-cesarean; and the classical or conservative operation, with its three subdivisions, the low, medium, and high operations depending on the relation the incision bears to the umbilicus, the median and high incisions being now used almost to the exclusion of the low, on account of the danger of adhesions between the fundus and the abdominal wall in the low incision.

*Read in Section on Pediatrics and Obstetrics. Annual Meeting, Muskogee, May, 1919.

The extra-peritoneal and trans-peritoneal techniques have for their object the avoidance of soiling the peritoneal cavity and are ideal in their aims, though quite time-consuming and technically difficult.

The Porro operation is radical and shocking and should not be done except in definitely infected cases. The classical operation with the median or high incision is simple and, when done early, comparatively safe and is the operation of choice in all cases of cesarean section at term except in neglected and mismanaged cases. It is generally contra-indicated in cases where there has been meddlesome interference.

Indications: In speaking of indications, we are accustomed to the phrases "absolute and relative indications," but relative indications, so-called, are responsible for the majority of cesarean sections in the present era. An absolute indication is that in which the maternal pelvis is so narrowed that it is obvious, even without a trial labor, that a living child cannot be delivered "*per via naturales*." This condition is comparatively rare, especially in this section of the country, where our women are, as a rule, well fed and well developed. Osteomalacia is unknown out here, and rachitis to the extent that it deforms the pelvis is quite rare. Therefore, if we wait for the absolute indications for a cesarean, we shall do about one to a lifetime; but at the same time will overlook many opportunities to save babies and prevent mothers from going through exhausting and agonizing labors, the outcome of which is always in doubt.

It is interesting to note the gradual change of opinion and extension of the absolute indication that authorities are expressing. In the earlier papers and texts which we have seen, the absolute indication is given as a pelvis with a conjugata vera of 6.5 cm. As a medical student some twelve years ago, we were taught that a true conjugate of 7.5 cm. was an absolute indication for a cesarean section. We now note that present day texts give 8 cm. as the dead line and some of the more progressive men 8.5 cm., presupposing of course a fetus of normal or average size. This of course under the assumption that a living child is a desideratum, for we hold no brief for those who disregard the child in an effort to save the mother, and feel that a man who habitually follows this creed is no more than a mid-wife. Of course, if the child is already dead, or moribund, that is a different story, as also in the case of monstrosities. There are rare occasions, perhaps, when it is necessary to do a craniotomy on a living child, but such cases should be rare indeed, and can be avoided without exception if the mother is given a careful examination either ante-partum, or early in labor. And we wish also to emphasize the fact that even a craniotomy is not without considerable risk to the mother, especially in view of the fact that the mother has generally gone through a long exhausting labor by the time this procedure is resorted to. At the New York Lying-In Hospital, where annually some six or seven thousand pregnant women are given careful ante-partum measurements, any case with a true conjugate of less than 10 cm. is considered a possible case for section. Such cases are given closely observed trial labors and if the head does not engage in ten or twelve hours of moderately strong contractions, a conservative cesarean section is resorted to, and I am satisfied that this apparent radicalism in these border-line cases is responsible for a great saving in maternal and infant mortality and morbidity. The writer believes that the percentage of morbidity following a delivery should be as much a criterion of its results as the mortality column. Even though a given procedure results in a living mother and babe, the case can hardly be called successful if the mother is left an invalid, or the babe a weakling, or both.

In making a plea for more abdominal deliveries of these border-line cases, it may be pointed out that high forceps deliveries will be found to be a much more formidable undertaking if one follows up his cases and observes the life and health of both patients afterward. The pediatrician and psychoneurologist both tell us of the baneful after-effects of high forceps.

We have found internal podalic version a much safer and wasier operation than

high forceps, even in cases of slight contraction at the brim, yet this can not be done safely later than a few hours after rupture of the membranes, and very often a contraction ring is a bar to this procedure. In one of our cases reported here, in view of the unfavorable surroundings for a section, a version was attempted but abandoned on account of a dense Bandl's ring. On the other hand, the version may be easy but there is high infant mortality attached to the breech extraction in primipara. We have lost but two children from cause directly attributable to the delivery and they have both been in breech extractions in primipara. Both babies might have been saved by early section, without greatly adding to the maternal risk. One case occurred down on the Mexican border where there was no hospital available. This woman, an elderly primipara, had been in labor some twenty-four hours without engagement of the fetal head. The family physician had made several attempts to deliver by the pituitrin method, and the family insisted that the method of delivery offering the mother the most ease be followed. Under the circumstances, and as the uterus was still in good condition, a version was done, but the breech extraction could not be done rapidly enough to save a large male baby.

The other was a breech case occurring early in our professional life and which was not diagnosticated until late in labor. This was a very large male baby with a small primiparous mother. So much time was consumed in extracting the after-coming head that the baby was lost. The mother had a rather extensive second degree laceration which was repaired successfully, but her convalescence was rather slow, due no doubt to the physical and mental shock in the case. An early cesarean in this case would certainly have been better. While I shall probably be severely criticised as a radical, I believe that a primiparous breech presentation with a large child should be seriously considered as a possible indication for an elective cesarean section. This certainly gives the baby a much better chance, and with an early operation with careful technique, I doubt if there is any greater risk to the mother than with a hard breech extraction with its inevitable severe laceration and the train of symptoms following such a condition.

Regardless of measurements, any case showing disproportion between passenger and passages in which the head does not engage after a moderate trial of labor, should be carefully considered with a view to elective section. It must be left to the conscience and good judgment of the obstetrician whether to do an early laparotomy when mother and baby are in prime condition or wait till complete dilatation has taken place with possible exhaustion of both patients, and attempt to deliver by version or high forceps, with a possibility of finally having to resort to a craniotomy, an extra-peritoneal or Porro-cesarean. These border-line cases require a greater degree of clear obstetric judgment than is required of surgical skill in doing the operation.

While pelvic and fetal disproportions are the chief indications for the operation under discussion, they are by no means the sole ones; for with the surgical perfection of this procedure, there is a rapidly enlarging field for its usefulness. Passing rapidly such very unusual indications as stenosis of cervix, obstructing tumors and other occasional causes of dystocia, the principal indications remaining are placenta praevia, abruptio placentae at or near term, and eclampsia at or near term.

The question of placenta praevia as an indication for cesarean section has been long and hotly argued, pro and con. The question largely resolves itself in the location of the placenta and the condition of the cervix. In central or marginal placenta praevia with but little dilatation, delivery by section offers the best chance to mother and baby. If the cervix is pretty well dilated or dilatatable, a Braxton-Hicks version is safer to the mother, but usually loses the child on account of the delay and interference with the circulation. But here again it is as much a question of what to do, as how to do it.

In premature separation of the placenta, at or near term, the abdominal delivery is proper, provided the case is seen while the mother and baby are both in

good condition. Should the cervix be dilated or dilatable, a rapid forceps extraction or version would probably be safer.

As to cesarean section in eclampsia we have another much debated question, but with the antis in the majority at the present. The chief objection to this procedure in eclampsia is that the baby is so toxic that it usually does not survive, even though born alive. The mother is a poor operative risk, but probably stands laparotomy about as well as any other procedure under an anesthetic. If seen before term, or in cases of small and easily extractible child, the vaginal hysterotomy is the delivery of choice. But in eclampsia at term we believe that the morphin treatment as practised in the Dublin Rotunda shows the best results and is commended by its conservatism.

No better closing sentence can be found than that of Judd, who says, "The mortality of cesarean section is not due to the operation, but to the condition in which the patient is found."

CASE REPORTS.

The following cases are reported because they were all border-line cases and all for somewhat different indications. The first two were cases in which other methods of delivery might have succeeded, but were not attempted, as the section done early seemed to offer the best result to mother and child. The results justified the conclusions. The third case I am not so proud of, though both mother and child were saved. But it was a typical neglected and mismanaged case and has more of a lesson than the first two.

Case No. 1. Mrs. E. H. M., primipara, age 23. This patient had normal pelvic measurements except for a somewhat reduced external conjugate (18.5 cm.) Her conjugata vera was 10 cm., but the sacral promontory was suspiciously sharp in its projection. This case went into labor April 25, 1918, and after twelve hours of good strong contractions had made no progress. A cesarean section was advised as the safest procedure. Consultation was requested and Dr. W. M. Taylor saw the patient. He expressed the opinion that she would not deliver herself and that it would be a difficult version and a very hard pull for high forceps. The cervix was still incompletely dilated and the membranes intact. The conditions were ideal for a cesarean, as she had been examined only three times and then with careful asepsis. The operation was done under ether, assisted by Drs. Harbison and Taylor. With the beginning of the anesthetic, 30 minims of aseptic ergot was injected intra-muscularly, and at the beginning of the operation one ampoule of pituitrin was given hypodermatically. A four-inch incision was made one inch to the left of the umbilicus with the center of the incision on a line with the umbilicus. The viscera were well walled off with hot sponges and the uterus was punctured with a knife and the incision extended to about four and a half inches. The placenta was found to be implanted at the site of incision, and there was for this reason considerable hemorrhage, as we had to tear right through the placenta. The child was delivered by breech extraction and turned over to Dr. Taylor for resuscitation. The placenta and membranes were carefully stripped from the uterine mucosa, and the uterine cavity swept clean with gauze. The uterus was closed by three layers of catgut, two in the muscle and a Lembert approximating the peritoneal investment. Fifteen minims of ergot was administered hypodermatically every four hours for 24 hours.

Recovery was uneventful, the incision healed by first intention, and the patients left the hospital on the eighth day. Both have been quite well, except for the influenza to date now thirteen months from date of operation.

Case No. 2. May 17, 1918. Mrs. J. T., primipara, age 36. Measurements normal. This woman was a paralytic, having a left sided hemiplegia since childhood. The uterus contracted unilaterally, the left half showing very little contraction. After 24 hours of weak pains and 24 hours of moderately strong contractions, the head was still unengaged and the cervix only four fingers dilated,

but a moderate contraction ring had developed. The patient and all her family were very anxious for a live baby, and an elective cesarean section was done as offering the best chances. The same technique as above was used, and the patient and her nine-pound baby boy left the hospital on the seventh day. Recovery was absolutely uneventful and without even a degree of temperature at any time.

Case No. 3. Irma, primipara, age 20. This case was attended by two of our senior medical students. After they had been in attendance six or eight hours and the patient had made no progress, I was called. This case had had an antepartum examination but the students making it had been unable to make out the sacral promontory. The external measurements were practically normal, and the internal conjugate could not be obtained on account of the position of the head which, though not engaged, was wedged into the pelvis. This case looked as though the head was coming through, and as the cervix was only one finger plus, the writer left the case with the instructions to the students to restrict their examinations and report if the case was not off in eight hours. However, through some misunderstanding, they left the case without reporting, and I discovered the next day, from another pair of students, that the case was not off. I went out on the next ear and found that the girl had made no progress. The cervix was now completely dilated and the membranes had just ruptured. I remarked to the students that the case was one for cesarean section, but as the case was out in the country, four miles from pavement and one mile from the interurban with roads impassably muddy, it was next to impossible to get the patient into a hospital. Examination under ether showed a large hard head wedged in the pelvic brim but the parietal bones had not passed the brim. A version was considered, but on account of the thickest contraction ring we have ever seen around the neck of the child, the hand could not reach the feet, even if a foot could have been grasped, we doubt very much if the Bandl's ring would have permitted turning of the child. Very much force was out of the question on account of danger of rupture of the uterus. The axis traction forceps were then applied, but several moderate tractions failed to budge the head. This was due to the slight disproportion between the head and the brim and chiefly, I think, to the very tight contraction ring around the neck. And with the danger of a ruptured uterus, we laid the forceps aside as too dangerous. This left us with our backs to the wall, facing either a craniotomy and embryotomy on a living child, which strange to say, was still in good condition, or a cesarean section on a mother not in very good condition. Knowing that the mutilating operation would not be without risk to the mother, and due to certain social features of the case, the section was decided upon with the girl's consent. Getting Dr. Harbison and a nurse from town, we operated late that evening, following the above technique. We should have removed the uterus, but were afraid to do it, under the unfavorable operating conditions. A fine nine and a half pound baby was delivered and is well today. The mother was inflected and made a slow recovery, with a sinus, no doubt from the uterus, draining pus for several weeks. The uterus apparently became adherent to the abdominal wall. When last seen, about two months after operation, the mother was feeling very well, though not yet strong and still rather pale. She may yet have trouble from the adhesions, and may have to undergo a laparotomy at some future date. While this is not a commendable result in this case, we might have had a similar result or worse from any other form of delivery under the circumstances. The girl should yet be able to pursue a life of usefulness, and we have given the world a strong healthy baby, which could not have been done by any save an abdominal delivery.

"Watch your Step" is a fine slogan to be observed in buying shoes, says the United States Public Health Service. Get them large enough, built on sensible lines and most of your corns and bunions will disappear.

Walking "Indian Fashion," that is, with the feet pointed straight to the front, instead of at the customary angle, has been found to be good for weak arches, says the United States Public Health Service.

THORACOPAGUS—REPORT OF CASE.

J. A. SMITH, M. D.

MC ALESTER, OKLAHOMA

The mother, a colored woman, age 28. Mother of one living child, history of two miscarriages at seven months; last miscarriage was in October, 1918, while she was very low with double pneumonia complicating "flu." She was rather large and always in good health, except as above stated.

I first saw her in this case about eleven o'clock on the night of October 12, 1919. She stated that it was time for her confinement, that the waters had broken about 36 hours previous, and that she had been having labor pains about six hours.



Examination: The uterus was high in the abdomen, cervix partially dilated, impossible to determine presentation at this time. Pains continued regular and normal until 3 a. m.; cervix was fully dilated but still very high and hard to feel, but I could make out one foot and one knee presenting. I advised that we had trouble and asked for help. Dr. Ramsey was called and anesthetized her. While attempting to bring the other foot down and the patient thoroughly anesthetized, I encountered the most intense hour-glass contraction of the uterus I have ever come in contact with. After considerable work I was able to bring the other foot down, but we were still unable to deliver the child that was presenting. Although we had discovered that there were twins, and that it was not a case of locked heads, on account of the persistent hour-glass contraction of the uterus we could not feel them out well enough to tell that they were united. After seeing that we could not deliver in the natural way, we moved her to the hospital and immediately did

a cesarean section. On opening the uterus we had to go through the placenta, as it was on the anterior part of the uterus, and lost considerable amount of blood. After opening the uterus we first delivered the placenta and then to our surprise we lifted out a thoracopagus or united twins, which were dead. We closed the uterus and abdomen immediately and put her to bed in a fairly good condition. Late in the afternoon she developed an acute gastric dilatation which caused her death at 1:30 that night.

Both of the children were well developed, the same size and all measurements exactly the same. They showed to be full term babies. The two weighed eight pounds, but they had been in alcohol for some time before being weighed, which I think reduced their weight considerably. Their measurements were as follows: length, 17 in., circumference of heads 12 in., legs $7\frac{1}{2}$ in., arms 7 in., around the chest of the two 16 in. They were both females and appeared to be perfectly normal in every way except that they were united.

PROCEEDINGS OF THE ST. ANTHONY CLINICAL SOCIETY.

DR. LE ROY LONG, President.

DR. LELIA ANDREWS, Secretary.

DEATH REPORTS.

Dr. L. J. Moorman. *General Septicemia due to staphylococcus infection.*

Mr. B., age 59, occupation farmer. Chief complaints: (1) Boils, (2) Retention of urine, (3) Cough with bloody purulent sputum, (4) Rapid loss of strength, and, (5) High fever with chilly sensations.

The boils started about five weeks ago on his left shoulder and in his left axilla. Three weeks after this he developed purulent urine and had to be catheterized once or twice a day. About one week later he began to cough and after three days coughing he said something "broke loose" in his lungs and he expectorated dark purulent material.

Examination of his chest revealed limited expansion on both sides, dullness over interscapular region extending to the right base posteriorly and the right apex anteriorly. Loud pleuritic friction sounds were heard at the right base posteriorly.

Fluoroscopic examination showed what appeared to be an abscess cavity in the right lung about the sixth to seventh interspace posteriorly, with extensive consolidation around it. Diaphragm not limited. No demonstrable fluid present.

About the same was demonstrated by the x-ray plate. The right apex was obliterated. There was a density suggestive of abscess about the sixth to seventh interspace posteriorly. There was general mottling throughout the entire chest. The left chest showed heavy hilus tracings with a few calcified tubercles throughout the entire left chest. Right and left diaphragm negative.

Blood count. R. B. C. 2,980,000, Hgb. 65, W. B. C. 20,000, Poly's. 80, Lymph's. 19, T. 1. The blood picture did not change much during the course of the disease.

The urine was acid, specific gravity 1.020 with many pus cells. Culture showed the predominating organism to be staphylococcus.

Repeated sputum examinations showed the predominating organism to be staphylococcus. Many pus cells and a few lymphocytes were present but no elastic fibers and no T. B. were found.

Repeated blood cultures showed staphylococcus in both series of flasks and no other organism present. The boils were then cultured and the same organism demonstrated.

During the time the patient was in the hospital the left lung became involved,

showing much impairment of resonance and numerous medium and large bubbling rales.

He was catheterized twice a day, irrigations of AgNO_3 1-500 followed with boric acid solution being used. His bladder irritation finally cleared up and he was able to pass his urine, but microscopic examination showed pus cells present.

The patient rapidly grew weaker and the cough was almost constant with the expectoration of large quantities of sanguino-purulent sputum of a very bad odor. On the twelfth day after admission he developed a stupor and profuse sweat and died. The cause of death was general septicemia due to staphylococcus infection with multiple abscesses predominating in the lungs.

Autopsy Report. I will only report the part that shows the greatest pathology. Chest. Right lung: Weight 820 gm. The cavity contained 875 c.c. of thick sanguinopurulent material. The parietal and visceral pleura were connected to each other by recent adhesions. The posterior one-third and the apex of the upper lobe were involved in a necrotic process. In the apex was a large cavity, the walls of which were composed of the thickened visceral pleura. Cut surface showed this to be a large abscess. The middle lobe crepitant throughout. Interlobar fissures obliterated by adhesions.

The lower lobe contained an area of crepitant lung about the size of an orange. The remainder of the lobe was irregularly consolidated. Cut surface showed one large abscess cavity at the base and numerous small abscesses throughout.

Left Lung. Weight 660 gm. Not collapsed. Recent adhesions of parietal and visceral pleura. Surface irregular with dark areas. Marked hypostasis posteriorly. Cut surface disclosed multiple abscess formations.

There was a large cavity containing pus in the posterior surface of the liver. Both kidneys contained abscess cavities. The bladder was not inflamed. (The multiple abscesses in the kidneys explain the repeated findings of pus in the urine after bladder symptoms cleared up.)

Cultures were taken from all of the above mentioned abscesses and staphylococcus was demonstrated in pure culture. No other organisms were found.

Microscopic Pathology: Lung abscess. Septic abscess of the kidney. Cloudy swelling and abscess of the liver.

Discussion. Dr. R. M. Howard. This is an important case. There is no question that the staphylococcus was the predominating organism. The history is also very clear. It started in the skin, then the blood, the kidney, and finally the lung.

Staphylococcus in the blood culture is often error, but the fact that it was twice positive with the other evidence makes it doubly sure.

Dr. Lelia Andrews. *Acute Inanition following premature birth and toxemia of the mother.*

Baby S., age 16 days, delivered at seven months. Before discussing this case it is necessary to consider the mother's history. She entered the hospital, six months pregnant with a diagnosis of toxemia of pregnancy. Her chief symptoms were nausea, vomiting, B. P. 210-140, 4 plus albumin and pain in the epigastrium. By restricted diet, free elimination and venisection, her B. P. was lowered and she was relieved considerably. She went home but returned in a short time in a much more serious condition. Her B. P. was again 210, she had marked edema of ankles and face, abdomen distended with ascites, her blood showed a high urea nitrogen, her urine showed 4 plus albumin and ophthalmoscopic examination disclosed edema of the retina with congestion of the disc. She began to have hemorrhage from detached margin of the placenta and was rapidly growing worse. She was hurried to the operating room and under aseptic technique, the cervix was packed with iodoform gauze and she was given 15 gr. of quinine.

Two days later the seven months baby was delivered. It was very thin and emaciated. Its weight was two pounds eleven ounces and its head measurements were less than half that of the full term child. Its cry was faint, and its movements very weak.

It was given milk from one of the other patients but there was a steady loss in weight and sixteen days later it developed convulsions and died of acute inanition. Its weight at death was one pound, eleven ounces.

Dr. H. Coulter Todd. *Meningitis following acute mastoiditis.*

This undernourished young man had complained of earache and discharging ear ever since he was a child. His parents considered it "catarrh of the head" but the history is that of chronic otitis media purulenta.

The discharge and pain had been worse since he had influenza last winter. The present attack began five days ago when the discharge ceased and the pain shifted to the mastoid region. He was advised to see an aurist but put it off two days after the discharge had ceased.

When I saw him he was very sick and was irrational. His skin was dry and hot, his temperature 104 and there was extreme tenderness over the mastoid on the right side. His blood count showed only 11,000 W. B. C. with 71 Poly's.

The mastoid cells were filled with a thick yellow pus of a very bad odor. Culture showed the organism to be staphylococcus, pneumococcus and some saphrophytic organism. There was very marked necrosis of bone and it was necessary to do a radical operation. The incision was closed and free drainage was made through the ear.

Patient left the table in fairly good condition but soon became restless and began to show signs of meningeal irritation. The right pupil became widely dilated, the left contracted, and both were insensitive to light. A little later they were both dilated and patient became unconscious. His pulse became 168 per minute and respiration six per minute. He died of respiratory failure.

This case might have gone on for some time longer if it had not been for the new infection when he had influenza. If he could have been operated before this infection he would have had better chances for recovery. It is very hazardous to do a radical operation in the face of an acute exacerbation of a chronic condition where there are organisms which the body has not yet had time to attenuate, but his clinical picture made it unwise to delay operating.

CASE REPORTS.

Dr. J. W. Riley. *Pernicious Anemia.*

Mr. W., farmer, aged 50. Here is a well developed, well nourished man who consulted a physician because of failing health. He has had stomach trouble with acid eructations and constipation for nine years. Jaundice two years ago. He has been getting pale and weak and short of breath. Much worse the past four weeks. Tires easily, has dimness of vision, numbness and tingling in feet and fingers. No loss in weight.

He weighs 165 pounds. Temperature when examined was 100, pulse 100. B. P. 112-68. Vessels negative. Skin, pale lemon tint. Respirations loud and coarse. Mouth full of infected teeth, gums infected, throat red and granular. Heart, apex in fifth interspace 6 cm. to left. Sounds indistinct. Muscle tone poor. Soft blowing murmur systolic in time heard at the apex. Spleen enlarged. Muscle tone decreased.

Wassermann was negative. Gastric analysis showed an absence of free HCl with a total acidity of only 4 per cent. No lactic acid. Feces analysis showed no pus no blood. Repeated urine examinations were negative.

Blood picture: R. B. C. 1,810,000. Hgb. 60 by the Sahli method, Index 1.66.

Size irregular, many microcytes and macrocytes, poikilocytes of varying sizes and "pessary" shaped cells. W. B. C. 4,700. Poly's 45. L. 48. E. 7.

This blood picture, in an elderly man with an increasing weakness, dyspnea, lemon yellow color and no loss in weight, suggests *pernicious anemia*. The onset is gradual. It affects the strong, more common in males. The anemia is caused by destruction of the R. B. C.'s by some hemolysin.

Cabot says the incidence of pernicious anemia is a great deal a matter of keenness on the part of the practitioner.

If the cases can be diagnosed early it affects the prognosis a great deal. Both-riocephalus latus and other parasites may simulate pernicious anemia but the patient did not have blood in his stools and the plus one index speaks for pernicious anemia. We can exclude gastric cancer because of gastric analysis and lack of emaciation and pain in epigastrium.

Aplastic anemia, more common in young females, runs an acute course with bleeding from mucous membranes.

In pernicious anemia there are gastric symptoms in 60 per cent. of the cases, constipation in 35 per cent. Sore throat in 42 per cent. and paresthesia and hyperesthesia in many cases.

Now we come to the treatment. Drugs have proved inadequate to check the disease. Out of 1200 cases reported by Cabot, only three are living. Since 1913 transfusion has been tried with some success. Splenectomy is advocated in selected cases. Lee, Minot, and Vincent report fifteen cases with splenectomies in which life was prolonged. Mayo finds the average weight of spleens removed in pernicious anemia is 400 gm. while the normal weight is about 195 gm.

The third day after the man came into the hospital he was given 500 c.c. of whole blood by the citrate method. Six days later he was given 500 c.c. more and a week later another transfusion of 660 c.c. of blood. His blood picture is much improved, R. B. C., 2,300,000, Hgb. 45, Index .99, and I think he is in good condition for splenectomy.

Discussion.

Dr. J. Roddy: There are three important things in the blood picture of pernicious anemia, the high color index, poikilocytes and normoblasts. The plus one index is the most important and the first to appear. The presence of normoblasts and poikilocytes is not pathognomonic of this disease but they occur in crises after the first or second year after the onset.

Pernicious anemia is more common in late years or else it is more often diagnosed. Up to 1917, Osler reports only 20 cases in 20 years practice. I know of six cases in the last six months.

The age is that of the cancer period or carcinoma, the most common age in men being 48 and in women 43.

Dr. Lea A. Riely: Syphilis must be considered as a causative factor in pernicious anemia. When we find the cause it becomes a secondary anemia.

Due to the anemia there is very marked loss of strength and the muscles are pale. The smooth muscle of the gastro-intestinal tract is extremely pale and the acid producing cells of the stomach disappear.

Dr. Ray M. Balyeat: The lack of free HCl is almost a constant factor in pernicious anemia and it is often one of the first symptoms. There were several cases at Peter Bent Brigham hospital that showed definite blood picture of pernicious anemia while the year previous they had an absence of free HCl and a negative blood picture.

Dr. R. M. Howard: The nervous symptoms are of importance in the diagnosis of this disease. The para-anesthesia and difference in knee jerks, according to some authorities, is due to sclerosis of the spinal cord or the nervous system.

Dr. A. D. Young: The nervous symptoms are present but they improve as the general condition of the patient improves. This would indicate that it was due to the temporary anemia.

Dr. J. W. Riley, closing: I consider doing a splenectomy because it offers the best results. This treatment is new but in the cases reported the patients live longer and have fewer remissions. I think it should be done only in selected cases as in the case reported at this meeting.

TRAUMATIC RUPTURE OF SPLEEN: SPLENECTOMY AND RECOVERY.

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CHIEF SURGEON OKLAHOMA HOSPITAL
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HISTORY OF ACCIDENT:

On the 26th of December, 1919, E. S., 5 years of age, was thrown to the pavement and run over by a very light car resulting in injury to his left chest and abdomen. He was seen shortly afterwards and immediately removed to the Oklahoma Hospital.

SYMPTOMS:

The history of *violent contusion* of the *left side, especially* along the *base* of the *thorax, hypochondrium* and *flank*, together with *evidences of serious internal hemorrhage* and *increasing abdominal rigidity, more marked* on the *left side*, suggested the necessity for immediate abdominal section.

OPERATION:

The median abdominal incision was enlarged obliquely to the left sufficiently to grasp the pedicle of the spleen and control the hemorrhage and expose and deliver the spleen and place a hot pack in the splenic fossa. After identification of splenic pedicle by palpation, avoiding injury to the stomach and pancreas, two clamps were applied to the pedicle and the extensively ruptured spleen was removed, the pedicle transfixed and ligated in sections with No. 2 chromic catgut; abdomen freed of clots, inspected, gauze pack removed, wound closed and patient placed in a warm bed, hot proctoclysis instituted and small doses of opium given when necessary to procure rest.

TECHNIC:

Where a ruptured spleen is suspected, the principal points emphasized by experience and such operators as LeJars, Balfour, and others are as follows:

- (a) Early abdominal exploration through adequate incision.
- (b) Delivery of the spleen.
- (c) Use of hot gauze pack.
- (d) Protection of stomach and pancreas from injury.
- (e) Preliminary ligation of any adhesions.
- (f) Careful ligation of splenic pedicle.

RESULTS:

The recovery of this patient is due largely to prompt surgical intervention.

REMARKS:

Increasing use of automobiles and industrial activities will produce a greater number of injuries, and it is well to have in mind some systematic plan of examination such as that suggested by Eisendrath as follows:

- (a) Ascertain as accurately as possible the exact manner in which the accident occurred.

- (b) General condition of the patient.
- (c) Results of local and general examination.
- (d) Symptoms of injury of particular viscera.

In injuries to the abdomen a decision may not be reached until the patient has been examined the second or third time, and in addition to the signs which may be seen or felt externally in the early hours (6 to 12) the following important points must be kept in mind:

- (a) *Muscular rigidity.*
- (b) *Localized or diffuse pain and tenderness on pressure.*
- (c) *Dullness in the flanks or above the pubes.*

FRACTURES OF THE SPINE.

A series of seventeen cases of shell fracture of the spine, with observations on kidney and bladder function, have been studied by H. W. Plaggemeyer, Detroit (*Journal A. M. A.*, Nov. 22, 1919). The subject was taken up by the author with his full realization of the period of time that elapsed between the inflicting of the wound and his first clinical view of the case, connoting the transition from the primary shock with depression and retention to the later stages, "usually characterized as the stages of: (1) paradoxical, or passive incontinence; (2) periodic reflex micturition, or active incontinence, and (3) paralytic or complete incontinence, in which latter phase evacuation of the urinary bladder is continuous, automatic and complete." It was in the later stages that the cases were called to his attention. The time after injury to his first observation of the case varied from two and a half to eight months, with a mean average time of four and a half months. All had been catheterized abroad and were infected. Many of them demanded catheterization. Under these circumstances, the author took the liberty of doing simple cystoscopy. All cases gave a history of complete retention following injury, and the onset of incontinence varied from twenty-four hours in five cases to six months in one. This patient had an indwelling catheter when admitted. Four others had apparently been catheterized as a routine. The mean average of onset of incontinence, barring these five, was forty-eight hours. The site of the lesion varied from the sixth cervical to the cauda equina, the lumbar being the site in nine cases, the dorsal in five, the cervical in two, and the sacral in one. Several of these overlapped. Rectal involvement was general and ran a course parallel to that of the bladder. Sexual desire and ability were lacking in all. None showed edema while observed. The clinical findings were practically unvarying and might be summed up as follows: 1. There was normal or hypertonic contraction of the external sphincter. 2. There was complete relaxation of the posterior urethra and the internal sphincter almost obliterated as such. 3. The trigon in six cases appeared definitely atrophic, in four it was raised. 4. The ureteral orifices were within range of normal. 5. Trabeculations were found in every case, gigantic in size, and, as a rule, transverse and coarse, on the floor, rather evenly distributed laterally, and most complex about the vertex. 6. There was no case of diverticulitis or of trophic ulceration of the bladder. 7. In nearly all bladders there was general vasomotor disturbance particularly marked on the floor, chiefly shown by irregular venous congestion, but in none of the cases did the author observe hematuria. The level of the lesion apparently did not affect either the functional activity of the bladder or the excreting power of the kidney. In one case the bladder was of the typically automatic Head type, and passage of urine and feces was a completely unconscious act. In no case did the author observe hyperhidrosis on forcible distention of the bladder, nor could he, in a single case establish a history of it, though in every case except one there was a previous history of zonal hyperhidrosis. There was residual urine in every case. Dietary control was used and also phenolsulphonaphthalein tests. The patients were studied as to the nitrogen retention, blood urea, etc. A general picture was observed of unusually high urea nitrogen, with high nonprotein nitrogen and persistent normal creatinin in the blood, balanced by a low renal concentrating power for urea, with a low output of creatinin in twenty-four hours and low uric acid output; collaterally, a colorimetric curve rising, as a whole, where the retention curve falls. There seemed to be no essentially reciprocal curve between urea retention and phenolsulphonaphthalein excretion. There must be some other ground than hydronephrosis for the retention phenomena exhibited. While not discussing the early care, Plaggemeyer would suggest abstention from catheterization which means sure infection. If intervention is needed, there is no contraindication to the use of the aspirating needle until incontinence is established. This will probably not be necessary if immediate resort be had to the use of general sedatives with careful attention to stimulation of mass reflexes by stimulating over the hypogastric plexus and causing relaxation of the external sphincter by fatigue of the pudic nerve. These bladders do not rupture, and as they are insensate, no discomfort is experienced. The seventeen cases are reported.

Don't always call the aching joint "rheumatism," says the United States Public Health Service. Bad teeth are sometimes the real cause and it is always wise to consult both the doctor and the dentist. Have an x-ray made of the teeth.

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EDITORIAL

TIME TO RETIRE.

Franz Torek, New York surgeon, was recently asked by a convalescent patient, who thought he had long ago earned a rest, when he proposed to retire. *The Medical Review of Reviews* opines that the answer is worthy of immortal recording:

"When I feel that I do not learn something new from each operation,
I will fold my apron and put away my gloves."

The reply is worthy of place in every physician's office, in the hospital preparation rooms, wherever we go, as a motto or rule. It is a reminder that there is no limit to opportunity and effort and that a physician is never through as long as he is blessed with discriminating intellect and ability to apply the countless memories of the past to the case before him.

Retiring from work has always been looked on by the writer as a premature waste of riches and ability, which may not be replaced. It may be that it is a fancy or ungrounded superstition, but it seems that retiring on the part of any active man from his real life work is a signal that the natural decay and inevitable end has been hurried on as no other act could have hurried it. The physician's work should certainly be more than the means to accomplish what is termed success by the superficial observer. Despite the commercialism of modern times, the constantly surging artificial influences surrounding the physician, he does most and is happiest who sincerely has before him the betterment of his work, the consequent betterment of his people; he is paid as no other mortal in the realization that he has been successful in relieving a human sufferer. It is true that actual experience discloses to him, more than any other man, the despicable trait of ingratitude, he sees enough of that to warrant his becoming an Ishmaelite when he reviews his reward, but thanks to his high ideals and staunch character he is

not swerved by such human weaknesses; he weighs the good, appreciates the clay he handles and dismisses the matter.

Ours is the only profession whose usefulness is ended by death alone. Work never destroys the worker if it is his work, if he works as an artist, appreciative of the functions he is called to fill.

T.

PUNISHMENT TO FIT THE CRIME.

An Oklahoma City writer suggests that the practice inaugurated in that city, requiring speed maniacs to gaze on their victims, might well be applied to those secreting and failing to report dangerous communicable diseases. Advancing the opinion that selfishness is the cause of most diseases of childhood, Miss Edith Johnson says this is the way it comes about:

"One child in a family is seized with illness, it may be measles, scarlet fever or diphtheria. In order that other children in the family may not be interrupted in their schooling . . . no doctor is called, . . . the illness concealed . . . the other children carry the infection about."

Declaring health and school authorities helpless to cope with such dishonesty; the uselessness of safeguards on the part of others to protect children in the face of this "most selfish form of human cruelty"; the suggestion is offered that the guilty be led to the death chamber to gaze on the result of their meanness.

We agree to any step or plan tending to curb the irresponsible in this respect. We sincerely believe that suggestions for control and betterment will be more effective coming from the people rather than our profession. As noted before, any move we make, any plan proposed, regardless of the purity and unselfishness of motive, is promptly met and assailed with vituperative criticism and charges that we have ulterior motives.

All the lessons of our war, technically not yet over, the cry of our government for aid answered by thousands of physicians, the suffering during epidemic due to shortage of physicians, seems already forgotten; while on every hand hostile organizations are active with propaganda and resolutions inimical to the sensible plans and hopes born of experience from the great catastrophe, which every one hoped might be practically utilized in the future.

To us these critics appear as Bolshevik destroyers, as menaces and dangers to our people. Like their prototype in other callings, our system of government permits them a free hand and uncurbed tongue in destruction. Their treason is just as treasonable as that preached by other enemies, but we have no remedy. The great majority want protection, but this pitiable minority, wanting none of it, insist on constitutional protection to carry on their beliefs regardless of injury to others. Even partial control of them in Oklahoma will be a difficult task when we come to study our basic law which limits regulation. Years of education of our young is probably the only solution.

T.

MALPRACTICE SUITS—WHAT OUR RECORD DISCLOSES.

Clearing files to meet the New Year disclosed such a mass of usual and unusual happenings in this respect—the further fact that our members who are not remitted for during January lose any possible privilege due them, accrued in the past, prompted a variety of speculation. So much so that it was deemed justifiable to jot down briefly a few of the predicaments our members met after being sued, and applying for defense.

Many of them applied for defense, on acts alleged to have occurred on some specific date. The membership card hanging on their office wall or in their files plainly stated they were not entitled to defense until *after* the date of their certificate's creation. Gentle or rough reminder that insuring a barn *after* its destruction

was their exact plight did no good; criticism of the Defense Fund, its management, peevish charge of injustice was the order of the day in such cases.

Those carrying indemnity insurance often came in merely on an afterthought demanding that our attorneys, at the eleventh hour, take up their case. Not uncommonly application has reached your Association *after* the physician was ordered to answer in court. They received no defense. They, too, have been dealt injustice, according to their views.

One upstanding surgeon, carrying indemnity insurance in two companies abundantly able to protect him, asked only for the good will of our membership, declining to assault the little nest egg we have in the fund. He got all we could give him.

Another sued, applying for defense the very day his answer was due; of course was denied defense. Another suit brought against him in a few months was followed by immediate report, compliance with the rules, and, as ready and competent defense as necessary.

Another sued *after* date of issuance of certificate, after useless correspondence, charges of unfair treatment, wound up the matter with the statement that he knew from the first no defense would be given, and that was the reason he did not apply in the time limit.

Several have applied for defense—not of malpractice—but suits for damages for acts entirely without the sphere of professional activity. Two charged with production of abortion, not unskillfully or negligently, by irate husbands, were not defended. They were not cited for malpractice, but other improper and damaging act. Both pretended wrong on part of your defense fund.

One enterprising defendant carrying indemnity protection advised his company he wished them to employ one firm of able attorneys, then requested that your Association employ another firm of attorneys, then of course expected defense from our regularly employed attorneys. The performance was shifty, but came to naught when it was shown that he had selected able and sufficient defense in the first instance.

Checks dated back, rather far in the misty past, with request that certificates show that date, cannot be accepted. In the first place, the certificate is a contract, active the date of issue; secondly the Fund belongs to every member, the matter is strictly a business affair, sentiment and friendship have no place, regardless of our kind personal feelings.

The moral of this rambling talk is:

Insure your barn effective in January, 1920.

T.

DISEASES OF THE HEART.

Just at this time when so much attention is given to the struggle to combat tuberculosis it might be interesting to give a side glance at just what mortality diseases of the heart are causing. In New York City alone, from the last mortality report, we find that whereas, 9622 deaths occurred from tuberculosis and 4702 from cancer, which is frequently quoted as being the one more to be feared by human kind than any other disease, the victims of cardiac troubles aggregated 10,682. As with tuberculosis, children are especially liable to heart disease and an intelligent report of the examination of school children would be of particular interest as to the number of damaged hearts found. It is well known that adults often suffer for years from heart diseases but mistake the symptoms for those of indigestion and other stomach troubles, and are surprised when their ailments do not respond to home treatment.

The prevention of diseases of the heart, naturally, like tuberculosis, presents both medical and social problems. It is agreed that certain diseases, notably

rheumatism, do affect the heart. Therefore, we cannot stress the point too much that prompt attention should be given to the removal of adenoids and diseased tonsils and the immediate care of decayed teeth. Just how much stimulants, to the use of which Americans are prone, contribute to the cause of cardiac troubles is worthy of note, at this time especially when we are entering into a period of prohibition. To sum up the subject, why not combine our efforts and add propaganda against diseases of the heart along with those against tuberculosis. The prevention and treatment of both diseases are analogous and we suggest that the Anti-Tuberculosis Association incorporate within its activities measures directed against cardiac disease.

C. W. H.

PERSONAL AND GENERAL NEWS

Dr. C. T. White, Alva, has moved to Gage.

Dr. A. J. Terrill, Vera, has moved to Collinsville.

Dr. J. H. White, Muskogee, visited relatives in Virginia during the holidays.

Dr. C. W. Heitzman, Muskogee, visited New Orleans during the Christmas Holidays.

Sapulpa city commissioners received bids for the erection of a \$50,000.00 hospital January 1st.

Dr. W. W. Jackson, Vinita, has moved to Hot Springs, Ark., and is located in the Thompson Building.

Dr. Charles J. Woods, Tulsa, and Miss Elizabeth Loyall, of Macon, Ga., were married in that city December 9th.

Dr. J. W. Sosbee, Gore, mourns the death of his little girl. The tragedy resulted from the child being accidentally burned.

Dr. F. Glenn Francisco, Enid, was elected Post Commander of Argonne Post, No. 4, for 1920 at the annual election December 11th.

Dr. Z. J. Clark, Cherokee, and Dr. Jas. Stephenson, of Chicago, have formed a partnership for the practice of medicine in Cherokee.

Dr. J. G. Noble, Muskogee, has been commissioned in the United States Public Health Service, and has been assigned to duty at Camp Cody, N. M.

Dr. and Mrs. David L. Gregory, Ardmore, have arrived from overseas via New York. Mrs. Gregory joined Captain Gregory in France last summer.

Haskell County Medical Society held its annual election at Stigler December 18. Dr. S. E. Mitchell was elected president, Dr. R. F. Terrell, Stigler, Secretary.

Dr. W. B. Putnam, Carnegie, suffered a severe, but fortunately not acute, attack of illness resulting from infection incurred while handling a surgical instrument.

Dr. J. C. Mahr, U. S. Public Health Service, Oklahoma City, and Mrs. Ollie Dunn of that city were married in December. They will make their home at that place.

The Enid Clinic, Enid, is considering plans for the erection of a permanent home to house its many activities. A site has been purchased and \$100,000 will be expended in the buildings.

The Oklahoma Hospital, Tulsa, held graduation exercises for the Nurses Training School of that institution December 16, 8:00 p. m. The exercises were held at the Boston Avenue M. E. Church.

Dr. Francis B. Fite, Muskogee, was unanimously selected by the city commissioners to fill the mayoralty vacancy resulting from the recent death of John L. Wisener. Dr. Fite formerly served Muskogee as Mayor.

Dr. Wallace A. Aitken, Enid, has been appointed Examiner for the Bureau of War Risk Insurance, and will have charge of examinations and treatment of conditions arising from army service of returned soldiers in Garfield County.

The Oklahoma Lying-in Hospital, 101 East 7th Street, Oklahoma City, announces their permanent location in their own building at the above address. Dr. W. A. Fowler, Medical Director, announces enlarged capacity. Miss Mary Forbes, R. N., is the Superintendent.

"Some Wild Oats" is the title of a new motion picture problem play made under auspices of the New York City Health Department, with the aid of the United States Navy Recruiting Division. The play has passed the severe scrutiny of critical censors, is an inoffensive, clean, but powerful production. It will be shown in various theaters throughout the country.

Dr. W. P. Lipscomb, Oklahoma City, who went to France as a Major, M. C., Oklahoma troops, has been discharged and announces the opening of his offices at 217 Liberty National Building, where he will engage in his specialty—eye, ear, nose and throat work. He made a host of friends among Oklahoma and Texas soldiers who welcome him home and wish him success.

DOCTOR SAM HOUSTON LANDRUM.

Dr. S. H. Landrum, Altus, one of the best known physicians of southwestern Oklahoma, was instantly killed November 28 when the car he was driving skidded from a sleety road into a ditch and overturned.

The remains were interred at Altus after funeral services at the Methodist church.

Dr. Landrum was born at Pilot Point, Texas, January, 1867, obtaining his preliminary education at Grayson College, Whitewright, Texas, later graduating in medicine from the University of Nashville, Tennessee, in 1899. Prior to studying medicine, Dr. Landrum taught and studied art, attending art school at Washington, D. C., and then teaching art at Lebanon, Tennessee, until he began the study of medicine. He was commissioned in the Medical Corps of the army in the spring of 1917 and stationed at Camp Doniphan throughout the war.

A wife, son and daughter, besides a host of friends are left to mourn his tragic departure.

DOCTOR WILLIAM H. CLARKSON.

Doctor William H. Clarkson, Blair, Oklahoma, died December 13th, after a brief illness. Interment was had at the Blair cemetery under auspices of the Masonic fraternity. Many friends and physicians from over Jackson County attended the funeral.

Dr. Clarkson was born in Camden, South Carolina, May 19, 1861. His preliminary education was obtained in the common schools of that country and at Colonel Institute, after which he graduated from the Memphis Hospital Medical College in March, 1889; after practicing in Texas until 1904, he located at Clarkson, where he had since resided as a useful citizen and physician. He is survived by a wife and five children.

DOCTOR FRANK W. WYMAN.

Doctor Frank W. Wyman, Stroud, Oklahoma, died at the home of his daughter in Detroit, Michigan, December 12th. His remains were interred in that city by the Masonic order.

Doctor Wyman was born at Bonaparte, Iowa, March 17, 1848. Educated in the common schools at Keokuk, Iowa, and Notre Dame University, Indiana. He received his medical degree from the College of Physicians and Surgeons, Keokuk, June, 1877. After practicing for ten years in Keokuk, he entered the United States Indian Service as a physician, serving at the Jacarilla (New Mexico) Agency six years, White Earth, Minnesota, two years, after which he was given the Sac and Fox Agency where he had served continuously for more than twenty years. Dr. Wyman leaves a host of friends who admired his great geniality and manhood.

DOCTOR JAMES C. JOHNSON.

Dr. Jas. C. Johnson, Braggs, died in Irkutsk, Siberia, December 13th. Dr. Johnson had served six years in the army before joining a Siberian Red Cross unit, his last assignment before sailing for Russia, being with the first Infantry, Camp Lewis, Washington. The Red Cross announces that death was due to typhus and that he was buried with military honors.

DOCTOR D. D. HOWELL.

Dr. D. D. Howell, Nowata, died December 6th after suffering several years of continuous illness. Death is reported as due to Hodgkins disease.

Dr. Fowler Border, Mangum, Surgeon, proprietor of a hospital, Mayor of Mangum in perpetuity, health officer of Greer County, otherwise an active citizen of parts, is reported to have recently undertaken the novelty of going on a vacation. We know not where he travelled, but feel that the vacation was of the strenuous type, to his liking, otherwise he would have no rest.

Muskogee's new detention hospital, after many months wasted in construction, is practically complete and ready for occupancy. Strikes of union workmen have delayed completion for many months, and certain elements of the City Commissioners, subservient to union dictation, allowed the much needed building to stand incomplete, despite the human suffering entailed.

Dr. C. W. Heitzman, Muskogee Councilor for the eighth district, has called a preliminary meeting of presidents and secretaries of county societies for January 29th, at Muskogee, for the purpose of reorganizing the District Society and arranging a program. The counties concerned are Craig, Ottawa, Delaware, Mayes, Wagoner, Cherokee, Adair, Okmulgee, Muskogee and McIntosh.

Dr. Millington Smith, Oklahoma City, is Chairman of a sub-committee of the Public Health Committee of Oklahoma City's Chamber of Commerce; the committee designated the Social Hygiene Committee, with the exception of Dr. Smith, is composed of laymen. Its functions will be to study methods to combat disease, co-operate with the city authorities and the federal and state clinic in caring for venereal infections.

The American Congress on Internal Medicine meets in conjunction with the American College of Physicians, Chicago, February 23; daily clinical and laboratory demonstrations, evening meetings, addresses by men eminent in American Medicine are features. Ethical physicians interested are invited to attend. Detailed information, early hotel reservations, etc., may be secured by application to Dr. Frank Smithies, Secretary-General, 1002 North Dearborn St., Chicago.

New York City's Student Nurses, according to press dispatches are threatening strike unless their demands for a day a week holiday are granted. Comment is unnecessary. Nursing is either a profession appreciative of the higher ideals or a mere mechanical calling on par with labor. A strike of nurses is deserving almost of as much condemnation as a strike of physicians. The employer does not suffer, but helpless humanity does, with not even a voice in settlement of the controversy.

Dr. D. Long, Duncan, has been appointed Chief Physician of the Bureau of Tuberculosis, according to announcement by Dr. A. R. Lewis, State Commissioner of Health. Dr. Long was born in Georgia in 1860, graduating from the Southern Medical College, Atlanta, in 1882. He practised in Georgia a few years, moving to Duncan in Indian Territory days, where he has resided since. The Chief of Bureau will have charge of all matters pertaining to tuberculosis, insofar as state activities are concerned. The first task confronting Dr. Long will be to list tuberculous subjects and devise plans for their betterment.

The Oklahoma State Nurses Association is taking steps to secure commission and rank for army nurses at least equivalent to the grade of second lieutenant. The move has the endorsement of the American Legion, and of many leading army officers. The organization held a dance in Oklahoma City December 11th for the purpose of raising funds to further the matter. There is none, or certainly should be no, objection to fixing the status of army nurses. No one questions the competency of them as a class. The preliminary requirements to enlistment are, substantially, as searching as those required of officers, rather more so than is required of certain officers, and their status should be permanently fixed.

Dr. A. R. Lewis, State Commissioner of Health, in a communication to the *Journal*, notes attacks and criticism of his office with reference to creation of the tuberculosis sanatoria provided for by the last legislature. Dr. Lewis says, in part: "The law made it mandatory upon me to select sites and approve plans and submit same to the State Board of Affairs, after which my duties ceased until the buildings are completed and turned over to me for management. I have complied with the law, and passed the matter on to the Board of Affairs. On account of business reasons, which are no doubt good at this time, the construction of these buildings has been delayed, as have other state buildings, but it seems all the abuse is being heaped upon me."

The American Red Cross announces the establishment in Warsaw, Poland, of the most complete and up-to-date laboratory in the world. The equipment to the minutest detail of from smallest vial to the research microscope with magnifying power as great as any in the world was transported across the Atlantic and half of Europe. Unpacking and unloading, entrusted to refugees was too much of a task for their weakened and emaciated bodies, so Red Cross doctors personally assumed the task. It is significant that in this as well as each of the other laboratories opened in Europe, American chemical stains instead of German are used, American peptone, used exclusively in fermentation processes, replaces the German, formerly the world standard.

COUNTY SOCIETIES

Tulsa County Medical Society reelected Dr. G. A. Wall, president, and Dr. A. W. Pigford, Secretary, at their annual meeting December 22. The election of these officers is a complimentary recognition of their work in building up the society during the past year. The increase in membership was greater than in any other county of the state.

Oklahoma County Medical Society elected for 1920: President, Dr. Horace Reed; Vice-pres., Dr. J. S. Hartford; Sec-Treas., Dr. Tom Lowry.

Ottawa County Medical Society elected: President, G. F. McNaughton, Miami; Vice-presidents, T. J. Dodson, Picher; J. H. Barham, Tar River; Ira Smith, Commerce; Sec-treas., Fred E. Deal, Miami.

Kiowa County Medical Society elected: President, J. A. Land, Lonewolf; Vice-pres., W. R. Levertou, Hobart; Sec-treas., J. M. Bonham, Hobart.

Greer County Medical Society elected: President, Dr. G. W. Wiley, Granite; Vice-pres., E. W. Mabry, Mangum; Sec-treas., J. B. Hollis, Mangum.

CORRESPONDENCE

DOCTORS AND THE DECLARATION OF INDEPENDENCE.

Aunt "Tonics and Sedatives," in the *Journal A. M. A.*, of December 13th, there were six physicians who signed the Declaration of Independence, viz:

Josiah Bartlett, Lyman Hall, Benjamin Rush, George Taylor, Matthew Thornton, and Oliver

Woleot. Of these, Benjamin Rush alone attained distinction in the medical world. The latter, born in 1745, was of English Quaker stock, graduated at Princeton in 1760, and Edinburgh, 1768; was elected Professor of Chemistry of the College of Philadelphia in 1769, and succeeded John Morgan as Professor of Practice in the same institution in 1789, and attained the chair of Institutes of Medicine, when the latter was merged into the University of Pennsylvania in 1791. He was the chief founder of the Philadelphia Dispensary in 1786, and Treasurer in the United States Mint, 1799-1813, the year of his death. He was Surgeon-General for the Middle Department under William Shippen, 1776-78; he deserted Washington at Valley Forge.

Rush was easily the ablest American clinician of his time, and his writings and reputation won him golden opinions abroad.

He belongs to the school of Sydenham in his adherence to blood-letting and his careful account of the diseases under his observation.

Of these he described cholera infantum in 1773, dengue in 1780, wrote an account of the Philadelphia epidemic of yellow fever in 1793. In fighting this epidemic, Rush played a distinguished part, breaking down his health by treating 100 to 150 patients a day, and incurring civic and professional hatred through insisting that the disease was not imported from without but arose from within the city.

His line of treatment was the exhibition of large doses of calomel and jalap, copious blood-letting, low diet, low temperature in the sick room, and abundant hydrotherapy within and without.

When sick, as he thought, of yellow fever, he consistently submitted to his own line of treatment.

Apart from his clinical memoirs, Rush wrote a valuable pamphlet on the hygiene of troops in 1777, and his papers on the diseases of the North American Indians in 1774, and their vices in 1798, with his account of the German inhabitants of Pennsylvania in 1798, are perhaps the earliest American contributions to anthropology. The original bent of his mind is shown in his inquiries into the effects of ardent spirits on the mind, the cure of diseases by the extraction of decayed teeth, and the effect of arsenic in cancer.

Dr. George Irwin Garrison.

Quapaw, Okla.

Dec. 15, 1919.

MISCELLANEOUS

ABBOTT'S ADVERTISING RESULTS.

The Abbott Laboratories of Chicago, have been using half-page space in this *Journal*. Their success warrants them in using a full page at this time, and our readers will find their full page announcement in this issue. This evidence that the readers of this *Journal* are careful to patronize our advertisers is gratifying, and is a tribute to the policy which this *Journal* long since adopted, of publishing in its advertising pages only such medical products as have been accepted by the Council on Pharmacy and Chemistry.

The readers have come to know that this *Journal* protects them; and as a consequence they may unhesitatingly purchase the products which are advertised in this publication.

In answering the Abbott advertisement, each reader should use the coupons attached to the page advertisement, so this *Journal* will receive credit for the inquiry.

CAN DIPHTHERIA MORTALITY BE REDUCED?

Despite the fact that diphtheria antitoxin is practically a specific, one out of ten cases of diphtheria terminates in death.

Why this high death-rate?

Two reasons: Tardiness in the use of diphtheria antitoxin, and the employment of two small doses. The average dose of diphtheria antitoxin at the present time is 5000 units. Authorities maintain that it should be 10,000 units.

Physicians who get the best results from diphtheria antitoxin use large doses early in the course of the disease. They administer initial injections of ten to twenty thousand units in all suspected cases. There is little danger from over-dosage of antitoxin. This fact is generally conceded. The real danger lies in the employment of too small doses.

Biological manufacturers are turning out serum of higher potency than formerly. Newer methods of refinement and concentration have resulted in a better product. The antitoxin produced by Parke, Davis & Company at the present time is three to five times as concentrated as the antitoxin supplied several years ago. Physicians readily recognize the advantages of Parke, Davis & Company's refined and concentrated high-potency diphtheria antitoxin. There is less serum to inject, absorption is more prompt, and the results are quicker and better.

COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

(The following articles produced by advertisers in this Journal have been accepted for inclusion with New and Non-Official Remedies by the Council on Pharmacy and Chemistry.)

NEW AND NONOFFICIAL REMEDIES.

Hoyt's Gluten Special Flour. A gluten flour containing protein, 80 per cent.; fat, 1 per cent. and starch, less than 10 per cent. This flour may be used when a diet relatively free from carbohydrates is desired, especially in diabetes. It does not make a satisfactory bread, but may be used to prepare muffins, flat cakes, or gruel. The Pure Gluten Food Co., Columbus, Ohio (Jour. A. M. A., Dec. 13, 1919, p. 1843).

Lactic Acid-Producing Organisms and Preparations. Fermented milks have long been used because they were palatable to many or because of an opinion among the laity and among physicians that they were advantageous in certain disorders of the gastro-intestinal tract. A great stimulus to the employment of fermented milk was given by the theories of Metchnikoff regarding intestinal putrefaction, which are, however, entirely unsupported by scientific evidence. No one seriously subscribes to his opinions at the present time, but, on the other hand, there is evidence that the administration of sour milk products is at times beneficial. In pediatrics, fermented milk has found a wide application. By the use of acid-producing bacteria, milks of suitable composition may readily be prepared. For this purpose, bacteria of the Bulgarian bacillus group, usually in association with *Streptococcus lacticus*, have been found particularly satisfactory. There is little evidence showing that organisms of the Bulgarian group can be implanted in the intestinal tract. There is little evidence that liquid cultures of lactic acid organisms are of value as local application to mucous membranes or in arresting putrefaction or suppuration in wounds, abscesses or sinuses. Liquid cultures of lactic acid organisms, and still more the tablets, deteriorate with age. All such preparations must be stored in an ice-chest and should be marked with an expiration date after which they are not to be used (Jour. A. M. A., Dec. 20, 1919, p. 1887).

Lactic Acid Ferments. In preparing the 1920 edition of New and Nonofficial Remedies, it appeared desirable to the Council on Pharmacy and Chemistry that careful reconsideration should be made of the use in medicine of lactic acid bacteria—and products prepared by means of these bacteria—in relation to practical therapy. A special committee consisting of a physiologic chemist (Lafayette B. Mendel, chairman), a pediatrician (John Howland), an internist (W. P. Longcope), a rhinologist (H. I. Lilly), and a bacteriologist (L. F. Rettger), took up the problem. A circular letter was sent by the committee to a large number of well-known bacteriologists, clinicians and manufacturers who might be assumed to have experience or information bearing on the practical use of lactic acid bacilli. Based on the replies which were received, the committee has revised the discussion of "Lactic Acid-Producing Organisms and Preparations" which appears in New and Nonofficial Remedies. These replies showed that the bacteriologists and scientific laboratory workers show far less enthusiasm for the claims of lactic acid bacteria for a place in practical therapy than do the clinicians. It was the general opinion that the Bulgarian bacilli cannot be effectively implanted in the alimentary canal by feeding cultures thereof. The overwhelming preponderance was against the usefulness of cultures of the bacilli in infected sinuses, cavities, etc. The committee recommended that cultures of *Bacillus acidophyllus* be not included in N. N. R. at present. The committee considers it important that the Council should continue its control of the viability and purity of cultures offered for sale (Jour. A. M. A., Dec. 20, 1919, p. 1895).

Benzyl Benzoate for Therapeutic Use.—Van Dyk and Co. A brand of benzyl benzoate which complies with the N. N. R. standards. For a discussion of the actions, uses and dosage, see New and Nonofficial Remedies, 1919, p. 53. Van Dyk and Co., New York.

Luminal—Phenobarbital—Phenyl-Ethyl-Barbituric Acid—Phenyl-Ethyl-Malonyl-Urea. Phenobarbital (luminal) differs from barbitol (veronal) in that one ethyl group has been replaced by one phenyl group. It is claimed that the introduction of the phenyl group increases the hypnotic power of luminal over that of barbitol. Luminal is claimed to be a useful hypnotic in nervous insomnia and conditions of excitement of the nervous system. Dose, from 0.2 to 0.3 gm., increased if necessary to 0.8 gm. Luminal is supplied in powder and as Luminal Tablets $1\frac{1}{2}$ grain. Winthrop Chemical Co., Inc., New York.

Luminal-Sodium—Phenobarbital Sodium—Sodium Phenyl-Ethyl-Barbiturate—The monosodium salt of phenyl-ethyl-barbituric acid. The actions and uses of luminal-sodium are the same as those of luminal. For hypodermic injection luminal-sodium is used in the form of a 20 per cent. solution. The dose of luminal-sodium is 10 per cent. greater than that of luminal. Winthrop Chemical Co., Inc., New York.

Sajodin—Calcium monoiodobenhenate—The calcium salt of monoiodobenhenic acid. Sajodin is used as a substitute for iodides. The iodine of sajodin, being longer retained, is perhaps better utilized. It is also less liable to produce gastric disturbance than alkali iodides. Sajodin is also supplied as Sajodin Tablets 8 grains. Winthrop Chemical Co., Inc., New York (Jour. A. M. A., Dec. 27, 1919, p. 1939).

OFFICERS OF COUNTY SOCIETIES, 1920

County	President	Secretary
Adair	S. R. Evans, Stilwell	Jos. A. Patton, Stilwell
Alfalfa		
Atoka		
Beaver		
Beckham		
Blaine		
Bryan	A. J. Wells, Calera	J. L. Austin, Durant
Caddo	Geo. C. Campbell, Anadarko	Chas. R. Home, Anadarko
Canadian		
Carter	R. O. Early, Ardmore	Robt. H. Henry, Ardmore
Choctaw	G. E. Harris, Hugo	Reed Wolfe, Hugo
Cleveland		
Cherokee		
Comanche	Jackson Brashear, Lawton	E. B. Mitchell, Lawton
Coal		
Cotton		
Craig	Louis Bagby, Vinita	R. L. Mitchell, Vinita
Creek		
Custer	K. D. Gossam, Custer City	O. H. Parker, Custer City
Dewey		
Ellis		
Garfield		
Garvin		
Grady	H. C. Antle, Chickasha	F. C. Boon, Chickasha
Grant		
Greer	G. W. Wiley, Granite	J. B. Hollis, Mangum
Harmon		
Haskell		
Hughes		
Jackson	E. S. Crow, Olustee	J. B. Hix, Altus
Jefferson		
Johnston		
Kay		
Kingfisher		
Kiowa	J. A. Land, Lonewolf	J. M. Bonham, Hobart
Latimer		
Le Flore	S. C. Dean, Howe	Harrell Hardy, Poteau
Lincoln		
Logan		
Love		
Mayes		
Major		
Marshall		
McClain		
McCurtain		
McIntosh	J. N. Shamity, Enfield	W. A. Tolleson, Enfield
Murray	J. H. Simmons, Sulphur	W. H. Powell, Sulphur
Muskogee	P. P. Nesbitt, Muskogee	A. L. Stocks, Muskogee
Noble		B. A. Owen, Perry
Nowata		
Okfuskee		
Oklahoma	Horace Reed, Oklahoma City	Tom Lowry, Oklahoma City
Oklmulgee	J. Lee Riley, Henryetta	W. B. Pigg, Okmulgee
Ottawa	G. P. McNaughton, Miami	Fred E. Deal, Miami
Osage		
Pawnee		
Payne	H. C. Manning, Cushing	J. B. Murphy, Stillwater
Pittsburg		
Pottawatomie		
Pontotoc	L. M. Overton, Fitzhugh	J. G. Breco, Ada
Pushmataha		
Rogers		
Roger Mills		
Seminole		
Sequoyah		
Stephens	C. M. Harrison, Comanche	J. W. Nieweg, Duncan
Texas	W. H. Langston, Guymon	R. B. Hayes, Guymon
Tulsa	G. A. Wall, Tulsa	A. W. Pigford, Tulsa
Tillman		
Wagoner	C. E. Hayward, Wagoner	C. E. Martin, Wagoner
Washita		
Washington	F. R. Sutton, Bartlesville	J. G. Smith, Bartlesville
Woods		
Woodward	R. A. Workman, Woodward	C. W. Tedrowe, Woodward

OFFICERS OF OKLAHOMA STATE MEDICAL ASSOCIATION.

President—Dr. L. J. Moorman, Oklahoma City.

President-elect—Dr. John W. Duke, Guthrie.

1st Vice-President—Dr. Jackson Broshears, Lawton.

2nd Vice-President—Dr. G. Pinnell, Miami.

3rd Vice-President—Dr. J. A. Hatchett, El Reno.

Secretary-Treasurer-Editor—Dr. Claude Thompson, Muskogee.

Assistant Editor and Councilor Representative—Dr. C. W. Heitzman, Muskogee.

Delegates to A. M. A.—1920, Dr. LeRoy Long, Oklahoma City. 1920-1921, Dr. L. S. Willour, McAlester.

Meeting place, Oklahoma City, May, 1920.

COUNCILOR DISTRICTS.

District No. 1. Texas, Beaver, Cimarron, Harper, Ellis, Woods, Woodward, Alfalfa, Major, Grant, Garfield, Noble and Kay. G. A. Boyle, Enid.

District No. 2. Dewey, Roger Mills, Custer, Beckham, Washita, Greer, Kiowa, Harmon, Jackson and Tillman. Ellis Lamb, Clinton.

District No. 3. Blaine, Kingfisher, Canadian, Logan, Payne, Lincoln, Oklahoma, Cleveland, Pottawatomie, Seminole and McClain. M. E. Stont, Oklahoma City.

District No. 4. Caddo, Grady, Comanche, Cotton, Stephens, Jefferson, Garvin, Murray, Carter, and Love. J. T. Slover, Sulphur.

District No. 5. Pontotoc, Coal, Johnston, Atoka, Marshall, Bryan, Choctaw, Pushmataha and McCurtain. J. L. Austin, Durant.

District No. 6. Okfuskee, Hughes, Pittsburg, Latimer, LeFlore, Haskell and Sequoyah. L. C. Kurkendall, McAlester.

District No. 7. Pawnee, Osage, Washington, Tulsa, Creek, Nowata and Rogers. N. W. Mayginnis, Tulsa.

District No. 8. Craig, Ottawa, Delaware, Mayes, Wagoner, Cherokee, Adair, Okmulgee, Muskogee and McIntosh. C. W. Heitzman, Muskogee.

CHAIRMEN OF SCIENTIFIC SECTIONS.

Surgery and Gynecology—Chairman, Dr. Ralph V. Smith, Tulsa; Secretary-Vice Chairman Dr. Ross Grosshart, Wright Building, Tulsa.

Pediatrics and Obstetrics—Chairman, Dr. C. V. Rice, Barnes Building, Muskogee; Secretary-Vice Chairman, Dr. J. Raymond Burdick, Ketchum Hotel, Tulsa.

Eye, Ear, Nose and Throat—Dr. L. C. Kurykendall, McAlester.

General Medicine, Nervous and Mental Diseases—Dr. Jas. T. Riley, El Reno.

Genitourinary, Skin and Radiology—Dr. J. Hoy Sanford, Muskogee.

Necrology Committee—Drs. C. W. Heitzman, Muskogee; John W. Duke, Guthrie; L. C. Kurykendall, McAlester.

Legislative Committee—Dr. Millington Smith, Oklahoma City; Dr. J. M. Byrum, Shawnee, Dr. J. C. Mahr, Oklahoma City.

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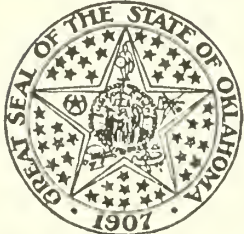
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SPOROTRICHOSIS.*

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OKLAHOMA CITY, OKLAHOMA

For the past several years I have felt that there was a need of calling attention of practitioners of medicine in Oklahoma to a comparatively newly discovered disease, though which no doubt has existed for many centuries, undiagnosed or described under other headings. A disease which most frequently begins as a single superficial lymph gland infection upon an exposed surface of the body, thence spreading through the same lymph vessel or chain, upward or downward toward the trunk and deeper channels of the lymphatic system.

This disease is now known to be of not infrequent occurrence, though formerly known by medical practitioners under various names, such as Lymphangitis, Tubercular Lymphangitis, Syphilitic Lymphangitis, and in United States Bureau of Animal Industry and by veterinary surgeons as Spurious Farcy, Mycotic Glanders, etc.

This disease was not known in medical literature under its present name until in November, 1898, when Dr. B. B. Schenck,¹ of Johns Hopkins Laboratory, proved by culture a specific organism which was given the name *Sporothrix*. Dr. Schenck carefully studied and made experimental inoculations of dogs and guinea pigs from an infected hand of a patient who had come from St. Louis for treatment at the Johns Hopkins Free Dispensary.

In his report through the Johns Hopkins Bulletin, Dr. Schenck acknowledges assistance in the classification of this new organism and the naming of the disease Sporotrichosis, to Dr. Erwin F. Smith of the United States Department of Agriculture.

This case which was studied in the Johns Hopkins Dispensary during November, 1898, and published in the December Bulletin, is so far known as the first case reported in the world. In 1899, Brayton, of Indianapolis reported a clinical study of a like case which no doubt was correctly diagnosed, sporotrichosis.

Since the above named publications, numerous reports of cases from various parts of the United States have been made by dermatologists and surgeons.

Hyde and Davis,² of Chicago, both now deceased, in the year of 1910 drew a relation between a case in their practice to that of an epidemic of glanders in horses of the same community, in the State of Dakota. Soon after these reports, Drs.

*Read in Section on Genito-Urinary and Skin Diseases and Radiology, Annual Meeting, Muskogee, May 21, 1919.

Beurmann and Raymond, of France, began to find many cases of this same disease in France which had previously been undiagnosed or incorrectly named.

Hekteon and Perkins,³ of Rush Laboratory, gave much information as regards cultures, inoculable animals, etc., Sutton,⁴ of Kansas City, gave early reports of several cases in patients from Western Kansas, and at various times and in different localities other cases have since been reported. However, so far less than one hundred cases have been reported in the United States though no doubt many more have been treated without reporting.

In the practice of Dr. M. M. Roland, my associate, and myself, we have treated not a few cases of this disease since our first diagnosed case in 1911, though this is our first public report of same.

Sporotrichosis is due to a specific budding round or oval shaped organism known as the sporothrix. This fungus-like organism is not easily stained and is best isolated by a four to eight day culture in ordinary media, such as peptone glucose, agar and potato.

The disease is most frequently found in those who have been handling or have been associated with horses, cattle, sheep, dogs, rats, or mice. Horses seem to be specially susceptible and good carriers of this infection.

Sporotrichosis usually begins upon an exposed part of the body which has previously suffered trauma, maybe only a slight abrasion or scratch. The disease begins as an infection in a superficial lymph gland of the derma and is manifest as a papulo-pustule, erythematous or deep red in color, gummatous in appearance and feel, and slowly though persistently progresses upward or downward, involving other lymph nodes along the same lymph chain toward the trunk and deeper lymph vessels of the body. This chain of septic necrosing glands when incised or ruptured gives a copious discharge of purulent necrotic matter, have subdermal sinus connections and are rebellious to all ordinary surgical treatment. This disease is characterized by the small amount of attending pain and lack of elevation of body temperature.

Unlike most other lymphatic infections, the sporothrix is satisfied with progressing along the same lymph chain throughout its course unless by accidental inoculation another and different lymph course takes on a like progressive infection.

The enlarged lymph nodes may be palpable for some distance beyond the visible gummatous, reddened or pustulating lesions. There seems but little or no tendency for spontaneous healing of any of the glands after they have ruptured or have been incised like as in other similar infections. It is possible and perhaps not a rare incident for this disease to progress to the larger and internal lymph channels thence to the venous system and death be caused by septicemia or secondary infections.

CASE REPORTS.

Case No. 1. Clarence G., of Weatherford, Okla., age 12, who was daily associated with domestic animals, cut his thumb with a pocket knife about December 25, 1910; incision failed to entirely heal. Several days later he noticed tender, red nodes of infection near and above injury. Later he noticed similar tender nodules extending upward along radial side of forearm. These nodular, inflammatory lesions continued to grow worse and the family physician was called. The infected glands were incised, dressings applied daily for several weeks, but the infection continued to spread upward until the whole length to the axillary space of this particular lymph chain became involved. He was referred to us by Dr. J. M. Gordon, of Weatherford, Okla., March 25, 1911, when from the finger and dorsum of the hand to almost the whole length of the arm was a chain of discharging pustules and sinuses as shown in photograph. (Fig. No. 1.)

Diagnosis was at first puzzling and ordinary treatment was given with no improvement, until the sporothrix infection was suggested by Dr. Roland, my associate, and a positive culture was made by Dr. Clifford, City Pathologist, several

days later. After diagnosis was proven by culture specific, treatment was begun. The discharge soon began to lessen and the lesions to heal rapidly. Treatment consisted of local applications of tincture of iodine and superficial x-raying. Also patient was given potassium iodine internally, 15 to 30 grains daily, until complete recovery.

Case No. 2. Edward S., age 15, Oklahoma City, was referred to us by Dr. W. P. Lipscomb, February, 1915. Gave history of slight abrasion on elbow several



Fig. No. 1, Case No. 1.

weeks previously. He frequently played around a dumping ground where all kinds of refuse, including dead animals, were thrown. Case now presented five or six necrosing lymph glands internal to and near elbow, extending upward toward arm pit, along one of the internal lymph chains. These infected, red necrosing glands had been incised and carefully treated and dressed by Dr. Lipscomb for several weeks, but had so far refused to heal. On his first visit to our office a diagnosis of sporotrichosis was made and a culture taken, but failed to grow due to an accident in laboratory.

Patient made a rapid recovery in about fifteen days under tincture of iodine and x-ray locally, with potassium iodide, 30 grains daily internally.

Case No. 3. Buel, C., age 19, of Hydro, Okla., living on a farm, was referred to us June, 1917, by Dr. Henke. Gave a history of a painless, red, gummatous, nodule, developing just above and near inner canthus of left eye, two months previously. Soon followed by other like suppurating nodules forming under eye and downward along course of lymph chain, external to alae of nose. These subdermal abscesses had been incised, drained, carefully treated, though had continued to discharge pus and progress onward for the past six or eight weeks. A diagnosis of sporotrichosis was made upon the history and clinical appearance. The ap-



Fig. No. 2, Case No. 4.

plication of tincture of iodine and x-ray locally and potassium iodide internally produced a rapid and successful recovery within sixteen days.

Case No. 4. Miss L., of Oklahoma City, age 35 (Fig. No. 2), was referred to us by Dr. LeRoy Long, January 23, 1919. She gave the following history: While spending the summer of 1918 in the mountains of Colorado, she had daily noticed and petted a stray horse which grazed around her lounging place. She recalls having a pin scratch on hand about same time, also that the horse appeared not in best of health. Soon thereafter she noticed red, tender lymph nodes beginning upon wrist. These tender, red, nodular suppurating glands gradually continued to extend upward along forearm until a few weeks later they had reached about the lower third of upper arm.

Before leaving Colorado she had consulted and been treated by a reputable physician of Denver. After her return to Oklahoma City in the Fall, she had consulted two or more reputable surgeons of Oklahoma City who had incised and carefully dressed these necrosing glands, though the copious discharge of creamy pus had continued. Upon her first visit to our office a diagnosis of sporotrichosis was made and a culture taken to the University Laboratory. Dr. Gastineau, then head of the Laboratory, was able to obtain after the fourth day a beautiful



Fig. No. 3, Case No. 5.

Note: the parallel chain of infection due to the original transverse injury.

round white fungus growth which later changed to the typical brickdust brown color. He was able to clearly demonstrate, microscopically, branching fungus, consisting of mycelial threads and spores.

Treatment given was local applications of tincture of iodine and superficial x-raying, also potassium iodide internally. Rapid improvement was noted in a few days, and at the end of three weeks all discharge had ceased and complete healing had taken place.

Case No. 5. Mrs. W., age 45, of Edmond, Okla., came to University Medical School Free Dispensary, 1919, presenting appearance as seen in Fig. No. 3. She gave history of a wire scratch across wrist, about three months previously. The scratch did not heal satisfactory, though patient continued her daily routine of work, one of which was to milk several cows. Ten or fifteen days after the injury she noted swelling, tender, red nodes around wound which spread upward parallel to and over radius. These inflammatory nodules, slowly progressed, later rupturing with a copious discharge of thick creamy pus, until when presenting herself at the dispensary the chain infection was clearly traceable to armpit. When dressings were removed, pus fairly dripped to the floor from almost numberless necrosing glands. She had been carefully attended by her family physician, who had, according to her report, made more than forty incisions at various times though with no apparent success in treatment.

Upon first examination a diagnosis of sporotrichosis was made and a culture given to the University Medical School Laboratory. Culture proved positive after the fifth day, was demonstrated microscopically and ran its usual course and changes of color. This case was kept in the hospital, made rapid improvement under the usual tincture of iodide locally, potassium iodine internally, and was discharged at end of three weeks practically cured, though was kept under observation for several weeks later until all ulcerations had healed.

Some four or six other like cases which have occurred in our practice during the past eleven years might herein be described, though the above delineated cases are sufficient to illustrate the usual and common manifestations of this disease which perhaps is not so rare as was formerly considered. It should be stated that in none of the above described cases was there noted at any time a rise of temperature above 99.5°.

Briefly summarizing the diagnosis: First: A patient, who may have been associated with domestic animals such as horses, cattle, sheep, goats, dogs, cats, etc., or may have come in contact with cleanings or refuse from such animals.

Second: Perhaps a history of an abrasion on exposed part, followed by red, tender, though comparatively painless nodular or gummatous-like glandular infections, spreading upward or downward toward the trunk of the body along a superficial lymph chain with no inclination to spread to other lymph channels unless by secondary inoculation.

Third: This infection is accompanied by slight, or no rise of body temperature, unless large areas or the trunk or deeper chains may have become involved.

Fourth: These necrosing glands are slow to rupture, though after rupture or after they may have been incised there flows almost continuously a copious discharge of creamy pus, both from the glands and their connecting sinuses.

Fifth: A round, white fungus culture changing to brick dust brown, from which branches of oval-like spores may be demonstrated by either a low or high power lens.

Finally: Perhaps the infection of the lymph system with the sporothrix of Schenck is less benefited by incising, drainage, and aseptic dressings, though yields more constantly to specific iodine or x-ray treatment than any other of the known lymph infections.

Type References:

1. Bulletin, Dec., 1898, Johns Hopkins Medical College and Hospital.
2. Jour. Cutaneous Diseases, July, 1910.
3. Jour. Experimental Medicine, 1900, Vol. 5.
4. Boston Jour. of Medicine and Surgery, Feb., 1911.

DISCUSSION.

Doctor Wood, Tulsa: Doctor Lain's discussion of sporotrichosis is very complete, and there is very little that I could add. The photographs that he has passed about are those of very typical cases and I only wish to make a few remarks in regard to it, or rather amplify a few of his remarks.

For instance, in relation to the frequency of it. There is no question but it is far more frequent than has been recognized in the past, and throughout the Mississippi valley is its favored location. In other words, the majority of cases occur in the Mississippi valley, and those cases, as described by men outside that region, a great many of them have originated in that particular locality.

In this part of the country, Oklahoma, Kansas and Missouri, it is very prevalent; it is much more prevalent than it is in any other section of the country.

Just a word here, too, in regard to the diagnosis, or, rather, the differential diagnosis. There are, perhaps, two conditions that the doctor, I believe, did not mention, that might be mistaken for, or, rather, that sporotrichosis might be confused with. One is blastomycosis, particularly in adult males, who are in the habit of being around animals, hostlers, and so forth. Two conditions exist among the same class of people, those who are in contact with animals, and another that might be confused, and I believe such by most authorities, as they sometimes bear some considerable resemblance, is the T. B. cutis. Now, this can be differentiated rather easily and by culture of the lesion and microscopical examination. The anatomical locations vary. The sporotrichosis, as the doctor has described, has a predilection for the particular lymphatic channels draining the area, while the T. B. cutis is apt to be isolated in a single lesion, and as is the same with blastomycosis.

I have nothing to add in regard to treatment, only that the doctor has outlined a very simple method and it is a very sure one, and as he says, and is agreed by all authorities on dermatology, I think, that many a case has probably been diagnosed as syphilis and cured in the lesions infected under the use of iodid potassium for staphylococci infection, and responds to the local application of iodine.

I don't think there is anything further that I care to say in regard to the subject.

Dr. C. H. Ball, Tulsa: I have been dealing with skin diseases as a specialty for about twelve years. I was associated for several years with the skin and cancer hospital in St. Louis, clinical instructor of dermatology at St. Louis University for ten years, and I have never seen a case of sporotrichosis. I don't know what it is. Now, whether I wasn't able to recognize it, or whether it was not in effect at that time, I do not know. I have been in Oklahoma for two years, haven't seen any case here, have had some mean cases of skin diseases, but I have not recognized a single case of sporotrichosis, so I don't know a thing about it except what the books say and Doctor Lain says, so I am hardly in a position to discuss it. He speaks of spores and micella, of course we get those in all forms of mytana, and I have seen blastomycosis, but the sporotrichosis is a new one on me, and I am going to look out for it if it is prevalent in this country.

Dr. C. R. Day, Oklahoma City: There was one statement made by Doctor Lain that I would have you remember and take home with you for future use, and that is the one that it is a disease that is frequently misdiagnosed, treated to a complete recovery without a diagnosis. I think that there is the secret of the failure to have seen cases of sporotrichosis. In 1904 I saw my first case. At that time I was not specializing. I diagnosed the case as staphylococci infection; it was a lesion on the back of the hand. It continued to spread with that single red line as described by Doctor Lain, with the nodules appearing at frequent intervals successively developing pus, being opened, continued to spread just as he described. At a loss to know what to do after continuing treatment for something like two weeks, I proceeded to saturate my patient with iodid of potash and in about six days

all symptoms had subsided. I afterwards learned that clinically I had a case of sporotrichosis; since that time I have seen a number of cases. Doctor Lain has given you a very good description of the disease, he has outlined the treatment as well as I know, and he had another treatment that I know is a successful treatment. It is a more frequent disease than is usually considered, because of the fact that the surgeon and general practitioner find these cases, take them for a simple blood poison, a streptococci infection or staphylococci infection; usually a streptococci is what they consider it because of the manner in which it develops and spreads; that red line that appears in the skin, and the pus is indicative, being, as Doctor Lain says, a single line, except where it had a double infection at the same time, got a double line, but that single line, as distinct as though it was made with a crayon, following the lymphatic vessel, is one wherein, if you make your laboratory experiments, I will almost guarantee you will find sporotrichosis, and it is a rather prevalent disease in this section. I have never found it elsewhere, and therefore do not know.

The two points raised by Doctor Wood, one of them in reference to the differential diagnosis between sporotrichosis and blastomycosis, as a point of differential diagnosis, is easily made, because blastomycosis never, in my observation, I am speaking about now, never produces a red line extending along the lymphatic channel, neither is it a cutis tuberculosis. These diseases do not have that red line, and when you see that single red line following the lymphatic vessel, followed with nodules here and there, look out for sporotrichosis.

Doctor Lain, closing: Mr. Chairman, I do not wish to take your valuable time, or to consume more time in so full a program as you have before you to be discussed today. I want to thank Doctor Wood, Doctor Day, Doctor Ball, for their very pleasant discussion and complimentary remarks, also thank you, Doctor Wood and Doctor Day, for calling my attention to an omission with reference to two diseases with which sporotrichosis might be possibly confused, blastomycosis and tuberculosis of the skin. Tuberculosis of the skin of that type, viz: lupus, as it is commonly known, you find a tubercle organism, independent of the lymphatic channel, and you can by culture prove it very easily.

Again I want to impress you, gentlemen, to watch out for this disease and do not fall down in your diagnosis like so many of us in the past. My first case ran over six weeks before I made a diagnosis; it is not a rare disease, you can cure them by saturating them with iodine, and my personal opinion is that in the past many cases of syphilis have been treated—I mean many cases of sporotrichosis have been treated as syphilis, with iodine treatment. These are the cases we get negative Wassermann in later years, and we wonder how we cured them when we had given them only a few drops of potassium. If you see a distinct case as I have outlined, you will relieve yourself of a great deal of embarrassment by being able to make this diagnosis early and relieve the patient without his having to visit from physician to physician like so many cases of the past.

Washington, D. C. Over 10,000 discharged, disabled soldiers were undergoing treatment in Public Health Service hospitals, or under contract with private hospitals, during January, according to tabulated returns. The number of applicants for treatment under the War Risk Act is constantly increasing, as the men become familiar with the fact that they are entitled to free treatment.

St. Louis, Mo. Extensive surveys are being made by the United States Public Health Service of school and home conditions of children in several sections of Missouri. It is expected to result in medical supervision of schools and the establishment of health centers where deficient children may receive medical attention.

RELATION OF FOCAL INFECTIONS TO SKIN DISEASES.*

CHARLES H. BALL, M. D.

TULSA, OKLAHOMA

While I am comparatively a tenderfoot in the medical fraternity of Oklahoma, having only practiced in this state since March, 1917, and having lived in St. Louis, Mo., for twenty-five years previous to coming to Tulsa, it was from El Reno that I went to St. Louis.

Some thirty-odd years ago I assisted in the publication of the *Indian Journal* in this beautiful city, which at that time consisted of a total population of about 200. During my residence here we printed the statutes of the Creeks, Choctaws and Chickasaws, Seminoles, and several other Indian tribes in their own language. About three or four years later I conducted a cotton yard and bought cotton at Davis.

A year or two after the original opening, at the Oklahoma City Times-Journal office, I printed and published the first catalogue of the first Oklahoma State Fair, which I was compelled to take to Guthrie, where Frank Greer, one of my fellow-townsmen of Tulsa, published the State Capital, to have the same bound in book form, he having then the only bindery in the territory.

The Cheyenne and Arapahoe opening, a year or so later, attracted me to El Reno, where I published the *El Reno Eagle*, and made the rim, securing a number of town lots at Okarche and 160 acres of land, but was finally frozen out by contests, which were the curse of that period, and retarded the development of this country very materially.

Leaving El Reno about twenty-six years ago, I returned to my home near St. Louis, where I found my father on his death bed. He was a graduate of the Cincinnati Medical College, having served four years as a surgeon in the Civil War. I realized at that time that I had made a mistake in not taking up medicine sooner, as he had a very large practice, which I would have fallen heir to, at least in part.

Muskogee has also some sad recollections for me, for it was here that my mother died ten years ago, while on a visit to my sister, who resided in this city at that time, and my mother was laid away in one of your beautiful cemeteries.

For twelve years previous to coming to Tulsa, as Clinical Instructor of Dermatology in the Medical Department of St. Louis University, on the staffs of the Barnard Free Skin and Cancer Hospital, City Infirmary, City Sanitarium, Baptist Hospital, Christian Orphans Home, and Children's Home Society, ample material and opportunity was afforded for the study of cutaneous medicine in all its aspects.

While on the staff of the Barnard Free Skin and Cancer Hospital, of St. Louis, Dr. Virgil Loeb, Professor of Oral Surgery in St. Louis University, also a member of the same staff, made a very exhaustive study of the microorganisms of the mouth and teeth over a considerable period, embracing several hundred patients. The work was of research character, not only to determine what role they played in the causation of skin and allied diseases, but also remote systemic infections.

Sinclair Tousey, A. M., M. D., Consulting Surgeon, St. Bartholomew's Clinic, New York, gives the clearest and most lucid description of mouth infections to be found. He says, in part:

*Read in Section on Genito-Urinary and Skin Diseases and Radiology, Annual Meeting, Muskogee, May, 1919.

ALVEOLAR ABSCESS.

This lesion sometimes develops insidiously and without local symptoms, and these are the most dangerous cases because unrecognized and untreated. Other cases pursue a perfectly frank and recognizable course, as follows: There is toothache, followed by a painful swelling of the jaw. These cases naturally seek relief at the hands of the dentist, but if they are neglected an abscess forms in the jaw bone surrounding the apex of the root, denuding the latter and sometimes considerably eroding it. In some cases there is more or less necrosis of the jaw. All these conditions are clearly shown with almost microscopic detail in a radiograph. The usual treatment of a fully developed alveolar abscess is by opening the pulp chamber of the tooth, removing the dead or dying nerve, draining the abscess cavity through the root canal, enlarging the apical foramen if necessary and applying repeated dressings through the root canal, and finally filling the latter with a non-absorbent material. Worse cases require also amputation of the apex of the root. Still others require extraction of the tooth, with or without curettage of a necrotic area of bone.

The origin of an alveolar abscess is as follows: The pulp or "nerve" of a tooth is richly supplied with blood vessels and nerves. It completely fills a cavity with unyielding walls, which has a tiny opening called the apical foramen. The latter is occupied by what may be called the stem of the nerve, which practically stoppers the opening. The pulp may become inflamed from any cause, such as exposure to cold, a neglected carious cavity in the tooth substance or some other cause. The rigid walls of the pulp chamber prevent any expansion of the inflamed and congested mass of "nerve" or pulp. The effect is the same as if an inflamed and congested mass of exquisitely sensitive living tissue were forcibly compressed into a space only half large enough to contain it. An analogy from general surgery is found in the subperiosteal suppuration commonly known as bone felon, in which it is imperatively necessary to relieve tension by an incision through the periosteum.

Attention to the carious cavity, counterirritant applications to the gums and an ice bag to the cheek may relieve the congestion and the pulp may return to a normal condition.

Other cases may not have been properly treated or the congestion may have been so severe as not to yield to treatment. The inflamed pulp becomes strangulated and we have the condition known as a "dying nerve." The dentist's treatment at this stage consists in drilling into the pulp chamber and removing the nerve. A local anesthetic makes the drilling perfectly endurable, and the same application is successful in anesthetizing the "nerve." This process has many advantages over the old method of hastening the death of the nerve by an application of arsenic. The removal of a dying nerve and the treatment and filling of pulp chamber and root canals commonly prevent any further trouble.

If the dying nerve is not treated it dies and breaks down into a liquid mass of decayed tissue, which often has a foul odor from the presence of microorganisms of putrefaction, commonly the streptococcus viridans. This purulent liquid is under pressure, and the apical foramen is no longer completely blocked by living tissue. Infection passes into the alveolus of the bony socket and soon there is an alveolar abscess surrounding the apex of the root.

Very many, if not most, of the cases of alveolar abscess referred for x-ray examination are connected with teeth which have already gone through the history of death and removal of the nerve. The x-ray often shows in such a case that the root canal has been only partly filled. A cavity remains in the tooth, lodging germs, which keep up infection of the jaw and the general system, and on occasion start an abscess in the jaw bone.

PYORRHEA ALVEOLARIS.

(also called Riggs' Disease).

This is another disease the symptoms of which point directly to the teeth, and which the dentist is naturally called upon to treat. The name implies a discharge of pus from the alveolus or tooth socket. The gums around certain individual teeth are swollen and usually red and bleeding, but sometimes white and cartilaginous. Pressure upon the gum causes an escape of a drop of pus along the neck of the tooth. And this may be repeated every five minutes. Day and night this discharge of pus and infected blood is swallowed with the saliva. The pus comes from a pocket extending from the neck of the tooth perhaps even beyond the apex of the root. The root of the tooth is often covered by dense black adherent calcareous scales. The pocket is formed by greater or less absorption of the alveolar process surrounding the affected tooth. The pocket may be demonstrated by passing an instrument into it, as is done by the dentist for the purpose of removing scales and applying suitable antiseptics. In the presence of the scale-covered root of the tooth and under the influence of the constant suppuration there is progressive absorption of the alveolar process until the tooth lies loosely in a large painful cavity, from which it is an act of mercy to extract it. The pocket is clearly demonstrated by the x-ray, and in many cases the radiographs reveal the cause of the pyorrheal pocket. Sometimes an unerupted supernumerary tooth pressing upon the root of another, thus acting as a constant source of irritation, is the original starting point of the pyorrhea.

In other cases the x-ray shows a root filling extruded through the apical foramen or through a false passage and forming an irritant foreign body. Removal of the offending substance, either through the root canal by enlarging the foramen, or, more effectively, by an amputation of the apex of the root, cures such a case, and other methods of treatment must necessarily fail. A retained root or an instrument broken off in the bone will sometimes keep up a discharge of pus. It used to seem desirable to allow a stump to remain after the crown of the tooth had all vanished through decay. This was on the theory that any kind of a root tended to prevent absorption of the alveolar process and so preserve the contour of the face. Recent cases have shown that this is sometimes dangerous. In one case an alveolar abscess of such a root was the seat of infection producing cardiac and arthritic lesions. In another case infection from such a retained root started up pyorrhea in a neighboring tooth and acted as a causative factor in neurasthenia.

GENERAL CONCLUSIONS.

A putrescent mass in the pulp chamber of a tooth may exist for months or years because the walls of the cavity cannot collapse and are incapable of throwing out granulations and eventually filling the cavity with healthy tissue, like the natural process of curing an abscess in the soft tissues of the body. This putrescent mass may constantly poison the bony tissues surrounding the apical foramen sufficiently to produce an effect clearly recognizable in a radiograph. This condition may be unknown to the patient and sometimes not reveal itself to the usual tests applied by the dentist. From this long-persisting source of infection secondary lesions and symptoms of the gravest and most diversified character may arise.

The x-ray is to be depended upon to show whether or not the source of trouble is connected with the teeth or the pneumatic sinuses, and, if so, whether the trouble is due to malposition and unnatural pressure or to infection. It would be a mistake to regard every case as due to the teeth and proceed to sacrifice the latter without first making a radiograph, which may acquit them of any complicity in the matter.

The streptococci from para-apical abscesses and pyorrheal pockets will produce experimentally in animals inflammation of the heart muscle, vegetations in heart valves, infected joints, inflammation in blood vessels, inducing vascular lesions and both focal and diffused infections of the kidneys. No doubt, future investigation will demonstrate that many cases of appendicitis, salpingitis, ovaritis, and

endometritis, when specific (gonococcal or syphilitic) causes are eliminated, may have the same origin.

From 12 to 15 per cent. of all individuals admitted to the leading hospitals throughout the country suffer from conditions due to mouth infection.

The streptococcus viridans is constantly present in chronic dental abscesses and pyorrheal pockets. The endameba buccalis is also present, but is not now considered the primary causative factor.

Each cubic millimeter of pus around an infected tooth or in the pyorrheal pocket contains from 600,000,000 to 800,000,000 microorganisms, usually the streptococcus viridans, therefore it can be easily comprehended how the absorption of the toxins manufactured by their destruction of tissue can be productive of pathological phenomena anywhere in the body.

Especial study has been done in arthritis, acute and chronic ulcer of the stomach, heart lesions, pernicious anemia, nephritis, and nervous diseases of the neuralgic type, and no important distinction has been found between dental abscess and pyorrhea as causative factors in these diseases. Even in cases originating from tonsillar or other large foci of infection the presence of pyorrhea or dental abscess will keep up the disease after the large focus has been cured.

The following are some of the principal diseases that have been directly traced to infection of the teeth or pneumatic sinuses of the face: Tuberculosis, arthritis, pleurisy, endocarditis, meningitis, hemiplegia, neuritis, neuralgia, tic doloreux, sciatica, arterial hypertension, cardiac lesions, exophthalmic goitre, eye diseases, such as neuroretinitis and episcleritis, tinnitus aurium, spinal cord lesions, such as sclerosis, gastric and duodenal ulcers.

In my work in dermatology the lesions of a large percentage of skin diseases are merely symptoms of a disturbance of metabolism, and the role played by the teeth and pneumatic sinuses of the face is no inconsiderable one. Two of the diseases heretofore considered practically incurable, psoriasis and dermatitis herpetiformis, since the recognition of the dental and oral factors, are now much more amenable to treatment.

Oliver S. Ormsby, M. D., Professor and Head of the Department of Skin and Venereal Diseases, Rush Medical College, and James Herbert Mitchell, M. D., Hyde Memorial Fund Fellow, Assistant in Cutaneous Pathology, Rush Medical College, make the following contribution to the subject:

"The influence of focal infection in the etiology of systemic disease, so convincingly revealed by Billings, Rosenow, and others, suggests a fruitful field for research in dermatology. This is true, not only because so many dermatoses are of obscure origin, but also because the enunciation of this new doctrine has brought with it a distinct and direct contribution to our special branch of medicine. Its indirect value must largely depend on the application we shall make of the principles it has established.

"In a series of fifty cases of cutaneous diseases, E. D. Chapman, of San Francisco, found evidence of focal infection in forty-nine. Of these forty-nine patients, thirty-five cases had abscesses in the teeth alone.

"The author makes the following classification of the dermatoses which may possibly be due to focal infection:

"Group 1. Those considered in some relation with arthropathy: (1) erythema nodosum; (2) erythema multiforme; (3) eczema (gouty); (4) psoriasis.

"Group 2. Those considered in some relation with neuropathy: (1) lichen planus; (2) lichen simplex (Vidal); (3) herpes simplex; (4) herpes zoster; (5) eczema (neurotic); (6) alopecia areata; (7) dermatitis herpetiformis; (8) scleroderma; (9) vitiligo.

"Group 3. Those considered in some relation with tuberculosis: (1)

erythema induratum; (2) lupus erythematosus; (3) lupus vulgaris; (4) lichen scrofulosorum; (5) various tuberculides.

"Group 4. Those arising from a focus in the skin itself: (1) impetigo contagiosa; (2) infectious eczematoid dermatitis; (3) various streptococcus infections.

"Group 5. Those considered in relation with anaphylaxis: (1) eczema; (2) urticaria; (3) erythema multiforme; (4) angio-neurotic edema.

"Group 6. Miscellaneous: (1) rosacea; (2) granuloma annulare; (3) chilblains; (4) Raynaud's disease.

"A summary of the author's cases indicate:

"Of six cases of alopecia areata, five showed infection of teeth and one marked post-cervical and post-occipital adenopathy. Of two cases of chilblains each showed infection of teeth. One case of dermatitis herpetiformis showed infection of teeth. Of four cases of circumscribed eczema each showed infection of the teeth. One case of erythema induratum showed infection of the tonsils. One case of erythema nodosum showed infection of the tonsils. Of two cases of erythema multiforme one showed infection of the appendix and one of the maxillary sinus. Of two cases of herpes facialis each showed infection of the teeth. Of four cases of lichen planus each showed infection of the teeth. Of two cases of lichen simplex of Vidal each showed infection of the teeth. Of seven cases of psoriasis five showed infection of the teeth, one infection of both tonsils and teeth, while the remaining one was apparently free. A roentgenogram was not made of the teeth in this case for the patient, though over thirty years of age, had apparently a perfect set of teeth and had never had a single cavity to be filled. One case of Raynaud's disease showed infection of the teeth and tonsils. Of seven cases of rosacea each showed infection of the teeth and one showed in addition an infection of the appendix. One case of psoriasiform seborrheide showed infection of the tonsils. Of two cases of urticaria each showed infection of the teeth. Of three cases of vitiligo each showed infection of the teeth and two cases of zoster likewise showed tooth infection.

"It is interesting to speculate as to why a dental abscess should produce in the one case lichen simplex chronica, which is a relatively small lesion, asymmetrical as a rule, and extremely resistant to treatment, and in another case lichen planus, which is generalized and symmetrical, as a rule, and which, in our experience, invariably yields to intramuscular injections of mercuric chloride, without recurrence. Also, it is an interesting fact that two of the diseases which have occupied the attention of the writer, namely, psoriasis and dermatitis herpetiformis, have the same temporary specific—arsenic; both of these diseases are temporarily relieved by the internal administration of this drug."

In the past eighteen months in Tulsa, the following skin diseases were treated by me, and about 90 per cent. yielded rapidly when the focus of infection was ascertained and appropriate measures applied. The diseases due to animal and vegetable parasites are not included. Most of them had their origin or were aggravated by the infections of the teeth.

Epithelioma (superficial), including rodent ulcer, carcinoma, sarcoma, fibroma and fibroadenoma, 71; acne (all forms), 53; cheiro-pompholyx, 37; dermatitis (all forms), 25; pityriasis rosea, 21; psoriasis, 17; impetigo contagiosa, 17; verruca planum, 13; eczema (all forms), 12; seborrhea (all forms), 10; sycosis, 9; erythema multiforme, 6; crsipelas, 6; pellagra, 6; alopecia areata and dermatitis herpetiformis (each), 4; dermatitis pappilaris capillitii, carbuncle, vitiligo, furunculosis, lichen urticatus, herpes preputialis and keloid (each), 3; urticaria, angioneurotic edema, lupus erythematosus, lupus vulgaris, pruritus senilis, herpes zoster, ecthyma, erythema (idiopathic), telangiectasis, erythema nodosum (each), 2; abscess,

ichthyosis, asteatosis, hyperidrosis, lichen planus, blepharitis, epulis, varicose ulcer, leucoplakia buccalis, dermatitis venenata, pruritus ani, milium and purpura hemorrhagica (each), 1.

I wish also to record a case of Hodgkin's disease (lymphatic leukemia) which is now under treatment with the x-ray and is making very satisfactory progress since all of his old snags and bad teeth have been removed.

One of the most interesting cases in this connection came under my observation on March 10th. The patient was referred to me by Dr. Arthur L. Stocks, of Muskogee, who later wrote me as follows:

"Dear Doctor Ball: Your card received relative to J. G. It being more convenient for him to have treatment in Tulsa, I recommended him to go and see you, and when he got ready to go told him that I would write you in the matter.

"Some time ago he had an operation for appendicitis, and they found a mass around the rectum. A section of this was made and submitted to the pathologist, who reported that the specimen examined was not malignant.

"Subsequently the mass grew so that when he was referred to me, the finger in the rectum met a mass the size of a foetal head, and the pressure of the tumor closed the urethra, so that the bladder was dilated with urine to about the size of an eight months pregnancy.

"We started the x-ray treatment, with very little hope of even temporary relief, and were happily disappointed.

"I gave him cross-fire treatment over the mass; first day on the left, anteriorly; second day, on the right; third day, on the left, posteriorly, and, fourth day, on the right side, posteriorly, using 6 milliamperes, 8-inch back-up, 5 millimeters of aluminum filter and a piece of sole leather. I have been repeating the above about every three to four weeks.

"I am inclined to think the case is a malignancy, and the probabilities are that the pathologist got a piece of lymphoid tissue, and not of the mass under suspicion."

This boy, 13 years of age, very tall for his years, and considerably emaciated, came limping into my office, humped over like an old man of 70 or 80.

The onset of his ailment was in May, 1918, when he first complained of pelvic pain. There was a digital examination of the rectum, following which there was a discharge of pus from the same, lasting about two months, possibly an abscess that ruptured into the rectum. I am venturing a guess that it was a psoas abscess. Following this he was operated upon and his appendix removed, and the mass mentioned by Dr. Stocks revealed. Since that time he had been making very little headway, the principal reason being on account of severe pain, extending from the pelvis down his thighs and legs, which did not permit him to sleep more than two or three hours continuously every night. This pain was so intense that he would moan and cry out so loudly that he could be heard a block or two away. There was also more or less paralysis of the sphincters, so that urination was only possible after severe straining, and defecation took place only after drastic cathartics and enemas. A physical examination showed the patellar and achilles reflexes absent, slightly positive Babinsky and Romberg, with increased sensory responses. Argyll-Robertson negative.

The abdomen was distended and the bladder contained a large amount of residual urine. The following were the findings of the urinalysis: Odor, rancid; color, dark (normal); reaction, acid (weak); specific gravity, 1020; albumen, none; sugar, very slight trace; indican, trace; bile, none; microscopical-pus, very slight; blood, few red blood cells; mucus, none; epithelium, slight squamous; casts, 3 hyaline, 2 blood, 1 fatty, 50 fields; cylindroids, none; threads, few; leukocytes, few; bacteria, non-pathogenic; crystals, excessive crystalline deposit, the neutral calcium phosphates, triple phosphates and magnesium phosphates being the predominating. I have never seen a urine so filled with crystals.—Knoblock. The blood was not examined, neither was there a digital examination of the rectum.

The mouth was inspected, and two molars found to be in bad condition. X-ray films were made, and one tooth showed an abscess cavity. He was then sent to Dr. Reisling to have that one extracted. The doctor reported to me that he found at the root of the tooth a granulomatous cavity the size of a hickory nut, which he thoroughly enretted out, packed and put in a drain. Later in the day the boy was given a 20-minute x-ray treatment, 90 K. V., 3 M. A., $2\frac{1}{2}$ millimeters of aluminum filter, distance 18 inches, 10 minutes each, anteriorly and posteriorly. That same night he was free from pain, getting a good nights' sleep, the first time in months. He was given fractional doses of calomel for several days and solution of magnesium citrate as a laxative, with good results. He was given a 20-minute treatment for three consecutive days, then twice a week for several weeks, and now is receiving a treatment once a week. He has made a gain of a pound a week, the sphincters are relaxing, and he has had no recurrence of the pain. The reflexes are also giving evidence of a return to normal.

I am presenting this patient to demonstrate the possibility of organic lesions anywhere in the body having as their causative factor or that may at least be aggravated by focal infections quite remote from the site of the trouble, and, of these, the teeth, I am sure, play a part, and to which we should give our most earnest study.

DISCUSSION.

Dr. A. L. Stocks, Muskogee: Certainly a pathologic condition that would remove from our activities one of the greatest Americans, Theodore Roosevelt, ought to cause us to pause and investigate the effects of focal infection. Doctor Ball has limited it to the teeth in his discussion, but we ought to realize that the tonsil, more frequently than we suspect, and a chronic appendix, is the source of focal infection. I sometimes wonder whether we are not inclined to become irrational in our enthusiasm, as they do in religion, too, to get hold of an idea and ride it, possibly, too far. I recall a story of a horse that died on the way, the man rolled it down the bank, and a few weeks after, other parties came by and saw the horse lying there and said, "Must have been killed by the maggots." Of course, at this time I think it an irrational conclusion when we find carcinoma and epithelioma to say it is due to focal infection, I don't know whether Doctor Ball wanted us to draw that conclusion or not.

I rather think those focal infections occurred coincident with the other pathology that were present, but certainly we ought to look after these conditions, and if Doctor Ball is right in his conclusions, myself and two other doctors here certainly erred in the diagnosis of the case I referred to him. It was really a remarkable case, and had I had occasion to discuss the matter three or four weeks afterward, if I had wanted to treat him, I would have been most enthusiastic as to the value of the x-ray, for I got identically the same response and the same result as Doctor Ball got when he attempted to attend to his teeth. As a matter of fact, his teeth were bad, but we decided that it was malignancy and recommended that his teeth ought to be attended to, but inasmuch as we expected to refer him to an undertaker very shortly we did not urge the matter, and I was very much interested, as I got a suggestion from Doctor Ball that did not just coincide with the letter that he was reading.

Doctor Ball: Oh, no.

Doctor Stocks: Didn't I understand that?

Doctor Ball: Oh, no.

Doctor Stocks: I misunderstood you, but I rather suspect that unless we are in error that that boy is going to have a recurrence. However, there is a possibility, of course, that the lymphatic glands of the pelvis might be responsible for the condition. When the Doctor referred him—the Doctor here referred him to me, there is no exaggeration to say that the bladder was dilated to the extent, at least the size of an eight month pregnancy, he had not been able to urinate a stream, excited, nervous, and I despaired doing anything, but saw we must do

something. We had already operated and it would not be wise to do anything more along that line, and I gave a very intensive dose of the x-ray, with exceedingly gratifying results, and I question very much whether, if it was lymphatic infection, I would have gotten those results. The boy did fine, slept well, free from pain, and the mass that felt almost like a foetal head in the rectum disappeared; it did not disappear suddenly, as you would expect by the rupture of an abscess, nor did it feel like an abscess, he had no discharge from the rectum or bladder, and gradually went away.

Now, there is a possibility that that case might have been due to the focal infection of the mouth; if so, it certainly is a demonstration of the necessity of having teeth repaired, correct all the pathological and etiological factors that might be causing it, or might even suspect was the cause of the pathology.

Dr. C. R. Day, Oklahoma City: This is always an interesting subject, no matter in what section it arises. When we speak of focal infections we usually refer to infections of the teeth. It has been my observation that in about as many of these cases the focal infection is elsewhere in the body as it is found at the roots of the teeth. We must not forget that prostatic abscesses are of as much importance as abscesses elsewhere, and yet a few of the men look there for the source of the focal infection. A few weeks ago I heard a prominent physician in this state say that _____ was due to focal infection in the teeth. I suppose the next thing will be that ingrowing toenails are due to focal infection at the root of the teeth. We are prone to go too far.

It has been but a short time ago since a lady visited the office of an ex-president of this society, gave him a number of symptoms of her complaint and he said, "Madam, when you get your teeth x-rayed and get all those infected roots removed, then I will talk to you." She turned her head to one side, took her handkerchief out of her handbag and slightly wiped her mouth and said, "Doctor, do you think that will do any good?" Both upper and lower plates being in the handkerchief in the handbag.

I do believe that focal infection causes skin disease, I do believe that focal infection causes other cystosmic conditions, but I do likewise believe that it is an unwilling horse that we are riding for our own protection. A few years ago we were operating and removing the appendix from everybody who had a pain whether they had appendicitis or not, just as in the case where a woman had a headache, we removed her ovaries, and now the fad is to remove the teeth, to remove the teeth. I believe within a short time, when we have come to the conclusion that we need our teeth in the future, and let some of the men who are continually looking at the teeth and x-raying the teeth, and finding the cause of all sorts of disease in the teeth, please look at the other end.

Dr. A. L. Stocks, Muskogee: If I may be pardoned, Doctor, you suggested one little thing, if he will come up to my office I will show the plates of a lady who went from Wagoner up here, with all sorts of symptoms to the Rochester clinic, and they put her through the routine examination and advised her to go back home, and they concluded that she was neurotic and they couldn't do anything for her. She was referred to Muskogee, one of our physicians here, and he said, "Well, better have your teeth examined," and she very near intimidated the doctor, she just pulled the teeth out, says, "I will hand them to you, I have been wearing these uppers for twelve years." "Well," he says, "ought to have your jaws examined." I have got the plate over there, for twelve years after wearing the plate she has a full size infected tooth, lying longitudinally in the lower maxillary.

There was another thing, while I am on my feet, I feel like we ought to emphasize; I don't know whether it is the experience of the rest of you or not, but so many dentists have taken the position of conserving the tooth when they ought to

be taken out. An infected tooth that is not readily relieved either ought to be amputated, the root amputated or taken out. Sometimes dentists carry the matter of conservation too far, so a diseased tooth or an infection of the tooth certainly ought to be corrected by taking it out; I believe the dentists are a little too slow in that, and if we have a nephritis, endocarditis, or any other of those infections we ought to see after them.

Now, there is no use becoming, as I suggested, irrational about the matter, but it certainly ought to be looked after.

Dr. E. N. McKee, Enid: I remember a case of a lady sixty-two years of age that reached up and took her teeth out with her handkerchief and we found an interrupted molar, infected, that was causing all her trouble.

Dr. C. B. Taylor, Oklahoma City: This discussion is made possible by one man, as this paper was made possible by one man. We are accustomed to look to the big centers of population for original discoveries in the area of dermatologists. In 1918 Doctor E. S. Lain of Oklahoma City is given credit for being a pioneer in this work, focal infections, as a causative factor in skin diseases; he is also given credit for being the originator of this work in dermatology which is used in more than half of the medical schools of the United States. His original articles are on file in the national library in Washington as a matter of record, his early articles. I think it is no more than right that we in Oklahoma should know that one of our colleagues has advanced the science of medicine by his original research.

Dr. E. S. Lain, Oklahoma City: After Doctor Taylor's little talk, the price of which I am not going to tell you just how much I paid for making that, I am like the girl when she heard her first proposal, I am speechless.

First, I want to compliment the essayist on having a very excellent paper; the first part of his paper on general technique of radiography was good; the latter part covered a wide range of focal infection in general diseases, that I must say I was sadly disappointed from the title of the subject, "Focal Infections in Skin Diseases." I listened with intent ear and I failed to hear him take a decided stand as regards the cause of the focal infection in any one of our diseases. My partner, Doctor Roland, and I begun this discussion some years ago, dates back to 1906, but that was when it was first mentioned by an article that I read to the State Medical Association in regard to rheumatism and closely associated with bad teeth, or abscesses under the teeth being connected in some way with rheumatism. That is the first thing for which they have given me credit.

After Rosenow and Billings did their most wonderful original work several years ago I was fortunate in hearing this report soon after, I happened to be in Chicago at that time, the thought occurred to me while he was giving this report, while I was sitting there, this may be the cause of herpes zoster, or shingles, also, since I have known for years that shingles and rheumatism and tonsilitis are very closely associated. I came home and begun to radiograph the teeth, in all cases of herpes zoster, I also begun to fail to find abscesses in a very small percentage of such cases; I begun to refer these cases to the tonsil man, and in every case, or practically every case in which we failed to find abscess, the tonsil man was able to find pus in the tonsil, but the tonsil man, like these radiologists, can trace up something, or have something to say to bear out his diagnosis. In several such cases, we had examined more than a hundred and fifty before we reported, that is, including those collected from other clinics, I wrote to every dermatologist and asked them to do the same kind of work and report to me, which they did. We failed to find the foci in the teeth and tonsils in three or four per cent., most of these were demonstrated also by other men as coming from the prostate or the ovary or some other location, at least such patients had plainly an evident foci, which might be cause for the disease instead of the teeth and tonsils. I have long since proven

to my own mind, and they are slowly coming to it, dermatologists are, all over the United States (I have a letter occasionally), that herpes zoster is due to a focal infection, also a few other diseases I am almost ready to say positively are due to focal infection; skin diseases I know nothing of.

Doctor Ball, closing: Gentlemen, Doctor Day, I believe, mentioned that case of a woman with all her teeth out. I have seen two or three of those, I have made x-rays of the jaw, and I have found either interrupted teeth or snags that caused the pathologic condition. Mention is made of the tonsils and the appendix as being a point of focal infection instead of the possibility of the teeth. My opinion is that the tonsil infection is secondary to the teeth, that the appendix is secondary to the teeth, the gall bladder is secondary to the teeth. As the gentleman here defended the statement about carcinoma and epithelioma as being caused by focal infection, I do not claim that carcinoma or epithelioma is primarily due to the focal infection of the teeth, but if you have pyorrheal tooth or an abscess each cubic millimeter of pus around that tooth, containing from six hundred to eight hundred million streptococci, the toxins manufactured by the destruction of the tissue being carried into the circulation constantly destroy that individual's power of resistance, consequently there is an opportunity for disease to take hold.

Speaking of the prostatic abscesses in old men, you men demonstrated that the prostatic abscess is due to a gonococcic infection—prove that it is not due to a streptococcic infection from the teeth, then I will believe it is a focal infection, and not before.

The gentleman spoke of the removal of the ovaries on account of a headache. It is not a very far cry when you have streptococci circulating in your system, you find lodgment in the ovaries and producing ovaritis, it is easy.

Doctor Lain says that I did not cover skin diseases in my paper. I mentioned, I think, about two or three hundred skin diseases that I have demonstrated to my own satisfaction, ninety per cent. yielded when the teeth were attended to. I do not believe I will go any further.

FRACTURES OF THE MAXILLAE.

E. P. Dameron, St. Louis (*Journal A. M. A.*, Oct. 25, 1919), reports observations made in General Hospital No. 11, on gunshot wounds of the maxilla. Many of the patients had excellent dental splints accomplishing fixation, but in some so much bone was lost that union was not to be expected and bone grafting was necessary. Bone grafting too early after healing of the wound is, Dameron thinks, undesirable, as latent infection may be started up. The problem was, therefore, to discover and remove any cause of infection in these cases. It was noticed that the greatest number of infected fractures were in the mandible. Maxillary fractures are much less likely to have discharging sinuses. Aided by roentgenograms, clinical evidence and anatomic relations, careful search was made for infected regions. Foreign bodies had generally been removed in previous treatment. Sequestrums were found in a few cases. These were removed and union quickly followed. There still remained cases with infection without foreign body or sequestrums, and with jaws well fixed with splints still giving no evidence of union. In some cases the wiring together of jaws as a permanent measure seemed to be the cause. It is frequently advised that loose teeth should be retained, but as time passed, other causes having been removed, these came under suspicion, and after other means failed, they extracted the teeth in or adjacent to the line of the fracture in two or three cases, and were surprised at the rapidity with which union occurred. The extracted teeth were found to be markedly infected. The plan was adopted of exploratory drilling into every tooth near the line of fracture; and a dead pulp was almost always found. Roentgenograms do not show these conditions clearly. The removal of dead pulps was practically impossible under these circumstances and extraction was needed. The results were so satisfactory that any regret over the loss of the teeth passed away. The conclusion is, that if union is delayed, careful examination of adjacent teeth should be made, possibly by opening into the teeth. Seven cases are briefly reported out of a number thus treated. The article is illustrated.

Cattle are fattened for slaughter by being overfed and not allowed to exercise. Many men and women prepare themselves for slaughter by voluntarily adopting the "stall fed life," says the United States Public Health Service. Don't overeat and take plenty of healthful, outdoor exercise.

OBSTRUCTIONS TO OUTLET OF THE STOMACH.* (Demonstrated Radiographically.)**

E. N. McKEE, M. D.

ENID, OKLAHOMA

It is with some degree of temerity that I appear before this scientific society to read a paper on such an important subject as "Obstructions to Outlet of the Stomach." It is a subject that could be considered from so many different angles, that a volume of good reading might be contained therein. But my enthusiasm for this valuable adjunct to medical science, the Roentgen ray, which has made such rapid strides in the past few years, chiefly as a diagnostic aid, has made me brave to make this humble offering, hoping thereby, either by criticism or words of praise, to be materially helped.

Our text books tell us that the normal stomach is a collapsible bag, hanging free in the abdominal cavity, but our fluoroscopic and radiographic study of this organ has led us to believe that the word elastic might be substituted for collapsible, as we may find this organ anywhere from the ensiform cartilage to the floor of the pelvis, indeed, in many cases of ptosis we find it occupying the true pelvis with only a small tract connecting with a small funnel-like condition at the cardiac orifice; these various kinds of normal stomachs have been described as fish-hook, cow's-horn, and text-book type, terms that have no pathological significance.

Of all the organs of the human body, the stomach is the most easily demonstrated by the x-ray, both fluoroscopically and radiographically. First, by its location, there being an absence of the bony framework; second, the ease of filling it with an opaque substance which will cast a definite shadow on the sensitized plate; third, the accessibility for manipulation under fluoroscopic examination, as to pain, tumor formation, etc.

The development of the individual has a bearing on the shape and position of the stomach. We have the stout patient with plenty of abdominal fat, showing a very high stomach; frequently it is so high that our shadows are interfered with by the diaphragm, and the body of the stomach will overlies the pylorus and duodenum. In the thin, emaciated patients in whom the stomach has no supporting abdominal fat, we often find this organ in the pelvis, each type being normal for that particular patient.

In this short paper, I shall not go into detail in regard to the several reflex conditions which produce an apparent obstruction in that they cause an increased length of time to be consumed in the emptying of the stomach, and which might be confused with a growth at its outlet—for example, a sore appendix producing pyloric spasm—but shall be content with those growths and obstructions that can be positively demonstrated by the Roentgen ray.

The outline of a normal stomach will vary greatly from pressure. This may be from a distended colon, especially at the splenic flexure which gives a peculiar irregularity in the greater curvature. Pressure from the spine when the patient is lying prone, often gives an apparent defect in the antrum. Enlarged spleen, or kidney, cysts of the pancreas, ascites, all may cause deviations in the stomach outline and must be given due consideration in each case examined.

There are several things that will cause a break in the outline of the stomach shadow that might be mistaken for a growth. Chief among them should be mentioned, pressure of the spine, a distended colon, enlarged liver, etc.

The incursions made on the stomach tissue are as definite as though traced on the blackboard with chalk. They may be new tissue growth, ulceration, syphilis,

*Read in Section on Genito-Urinary and Skin Diseases and Radiology, Annual Meeting, Muskogee, May, 1919.

**Limited space prohibits inclusion of cuts used by Author to illustrate this article. They will accompany reprints.

benign or malignant growth of the pylorus, duodenum, antrum, or from growth in connection with the liver, pancreas, or gall bladder.

In the *Journal A. M. A.*, Aug. 26, 1916, F. H. Baetjer, and J. Friedenwald, of Baltimore, selected 50 consecutive cases, including those only concerning which they could be confident of the correctness of the diagnosis. Of these, the growth was located in 34 instances about the pylorus, in nine it involved the body of the stomach without interfering with the orifices, and in seven the cardia was involved. Of the 50 cases the gastric secretion was obtained in 46. There was a normal acidity in four instances, a hypochlorhydria or an absence of acid in 36 instances, and a hyperchlorhydria in six instances. In the 36 cases showing a hypochlorhydria lactic acid was present in 28 instances, and the Oppler-Boas bacillus in 24. Occult blood in the stools in 42 of all the cases. A palpable tumor was observed in 34; gastric hemorrhage in 14; melena in 8; occult blood in 46; dilation of the stomach in 24 cases. The Roentgen ray gave positive evidence of disease in 46 instances, of which four were early cases and 42 were late cases. In two of the four early cases the roentgenogram gave a positive diagnosis of carcinoma. In the other two, however, an ulcerative lesion was found which was thought to be benign. The Roentgen ray evidence then was positive in 42 of the late cases. It was positive so far as the lesion was concerned in all the cases but positive in only 95 per cent. of the cases as regards the actual diagnosis of carcinoma. In the early cases the Roentgen ray showed a lesion in all; in two of them, however, it was thought to be benign, but exploration proved the condition malignant. This method of examination, in the author's experience, possesses about the same diagnostic value as any of the other signs of this disease, when taken alone, but in conjunction with the clinical evidence, a positive diagnosis can almost always be made.

Stenosis of the pylorus, French abstract in Dec. 30, 1916, number of *A. M. A. Journal*, it states that in three cases reported, the strangulation of the bowels was from adhesions developing in consequence of a chronic inflammatory process in the pylorus regions.

In one case there was ulceration which led to stenosis of the colon in the iliac region. The bowel was released from the adhesions, but two years later there was stenosis of the pylorus from the same cause. Operative treatment restored the man to clinical health.

In the second case, the jejunum was strangulated and kinked by adhesions within two months of a gastro-enterostomy done for cancerous stenosis of the pylorus.

The third case terminated fatally, with attacks of tetany. The pyloric stenosis was due to an ulcer; an operation for gall stones impacted in the common bile duct was also necessary. The stenosis of the jejunum did not develop until seven years after the gastro-enterostomy for the ulcer. The possibility of these tardy sequels of an ulcer should not be forgotten when confronted with a case of occlusion of the bowel with or without stenosis of the pylorus.

All of which gets us back to the point of interest, "That all patients with stomach symptoms which do not respond to proper diet and a little medication, should be granted the privilege of a thorough pathological and x-ray examination, and if the average physician does not wake up to this fact, the patients will beat him to it."

We have frequent calls from the laity for stomach examination who have not been referred by the medical attendant, but who just called because neighbor Smith or Jones had been to see us.

The number of clinics springing up over the country, where team work makes available a good x-ray and pathological laboratory, as well as articles appearing in our leading magazines, are to blame for this. The average individual wants a diagnosis of his ailment and is willing to pay the price, and what's more, he does not shrink from surgical assistance when he has fairly conclusive proof as to his trouble. The time for exploratory incision is being relegated to the dim past.

DISCUSSION.

Dr. R. H. Harper, Afton: Doctor McKee very properly, I think, put emphasis on the necessity of early diagnosis. I just want to mention the difficulties sometimes attending early diagnoses of conditions at the outlet of the stomach from personal experience.

Fours years ago last November, after a summer's sickness and principally diarrhea, vomiting, pain, I went to St. Louis, had the advantage of Doctor George Dock, principally as consultant, Doctor Louis Butler and Doctor Cale. After two weeks of study and all sorts of tests we did not make a diagnosis of the condition; ten days again in January and they still were undecided as to the condition, and then again the latter part of February, and preliminary to an operation they still had not decided except on the probability of two or three things, gave me the cheerful opinion that they could not exclude carcinoma. The operation revealed an ulcer about as large as a dime on the duodenum and under side of the pylorus, so I just mention that as evidence of the extreme difficulty of arriving at a diagnosis in some of these cases by the very best men in the country.

Dr. A. L. Stocks, Muskogee: The Doctor^r suggested a similar experience that I had last summer up at Rochester. A physician, Doctor Beggs, was up there, and he was put through all the examinations that Rochester was competent to put on and a negative finding made. This was reported, rather, Charley Mayo spoke of it at the time he was operating. There was a negative finding all the way through. The man insisted there was something the matter with his stomach and demanded an operation, and his physician being with him—otherwise he would not have got the operation. He was operated upon and an ulcer of the duodenum was found. I do not believe it is fair to expect radiologists to be a hundred per cent perfect on diagnosis of those conditions. It is not so, it can't be, and those of us who are doing that class of work are constantly being brought into realization of it. Now, this is in the family, of course—of the assinenity of so many doctors. We are constantly brought to the realization that there is something the matter with doctors that are just looking at the tongue, feeling the pulse, and making a bowel diagnosis.

A man came in about three months ago of his own volition; he had requested, almost demanded, of his physician that he have an x-ray examination. The doctor told him, "Why, they can't x-ray your stomach, as it is only good for the bone and the kidneys." He came in, however, from up the Midland Valley road, Jenks or somewhere up there, and he could retain in his esophagus a quart and a half of a buttermilk mixture; he had that much dilation of his esophagus, due to a benign stricture of the cardiac end of his stomach. Now, of course, that man lost all kinds of faith in his doctor, and in a certain proportion lost it in the profession.

I had a case up in the office where a man had been sick since last August; he had nine doctors in that time, each one making a diagnosis of an obscure pathology, and he, of his own volition, came in, and sometimes I wondered, personally, whether a radiologist ought to take a patient of that kind, but if the doctors are so stubborn, I want to put it that way, we shall have to do it; but that man, I found he a marked kink in the transverse colon, very marked and ulcerating at that point. Now, whether the ulceration is malignant, I don't know. So that it seems to me that radiologists ought to bend every effort to get the general practitioner to cooperate, and all cooperate together in ascertaining just what is the matter with the patient. I am satisfied that when we reach this utopian condition that we will have benefited the public and ourselves, too.

Dr. E. S. Lain, Oklahoma City: Mr. Chairman, I was trusting not to be called upon to discuss radiography at this time, first, because I did not hear all of the paper, for which I am sorry. The part I heard was a very interesting summary of the experience of Doctor McKee in the army and in private practice, which has

been extensive, and his conclusions drawn from those experiences. The radiograms as shown, the lantern slides were good and clear, I was very much interested in my interpretations, trying to make them before Doctor McKee did, kind of testing my own ability, and we corresponded very well. I would say personally, I am not doing any active work towards advancing in radiography, as many of you know, as I turned the radiograph part of my work over to my partner, Doctor Roland, several years ago, and since he has been in France, away nearly two years, I have been forced back into my former calling again. However, I am not studying the technique, I am very much interested in interpretations and still willing to trust interpretations on most any radiogram. I realize that I shall soon drop out on interpretation of radiographic work unless I try to advance on technique. This question of carcinoma of the stomach, ulcer of the stomach, has always been one which has given room for various opinions according to the experience and the various techniques, every technique which has been used. I was a little anxious to hear Doctor McKee give us a little more on interpretations by radiographs of ulcers of the duodenum or ulcers of the stomach as compared with carcinoma. I presume that that is still somewhat in a primitive stage; personally, I never felt that I was able to distinguish between an ulcer and carcinoma, and I have, in but few cases attempted to make a positive diagnosis of ulcer or a carcinoma, or a slow carcinoma in the duodenum or edema or any of the forms of the small intestine. I think it is very difficult to make with the radiograph alone. The x-ray, like all other laboratory aids, is subject to errors, which we all know, and which we are sad to learn, is not known by so many. They expect the impossible of us. It is true that we are making advances continuously, it is true that no interne today can do successful work unless he has radiograms or radiographs of perhaps seventy-five per cent of his cases of suspected ulcer or carcinoma within the intestinal tract at any point. I say it is true that he must have this work done and that he has not fully carried out the best manner of diagnosis until he has had this work done. At the same time we must have connected with this, clinical symptoms and other aids stomach analysis, chemical analysis such as have been known before the time of the radiograph. We are coming to know this work and to learn more about this continuously, and I am glad to see my colleagues advance, go right on with the work, as I hope to sit and listen to their interpretation.

Doctor McKee, closing: I wish to thank the gentlemen very much for their generous discussion of my paper and to say that that is my impression, in the pathological working conditions we can make a fairly definite diagnosis. One other point I wish to mention in regard to Doctor White's suggestion in regard to fluoroscopic examination. I don't know whether I made that point plain or not, but we do put in about nine-tenths of our time, better than ninctenths of our time, in fluoroscopic examination and handling of the stomach, just using the plate for checking up.

Walk a mile each day to keep the doctor away, advises the United States Public Health Service. Try walking to work every morning and see if it doesn't make you younger and healthier.

Hot house people are like hot house plants. They can't stand exposure to severe weather, says the United States Public Health Service. Sleep with the windows open and keep every room well ventilated.

OPERATIVE AND DIAGNOSTIC CYSTOSCOPY.*

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Cystoscopy is by some considered such a highly specialized work that it is of interest and value only to the specialist who makes direct use of it. With this view the writer would take direct issue; and would declare his belief that it is the obligation of every practitioner of medicine who undertakes the responsibility of caring for human lives to be definitely acquainted with the faculties and methods of cystoscopy and to have a clear and practical conception of its uses and indications in his work.

We all make use of the tremendous advantages offered by radiography, although comparatively few of us possess the x-ray equipment or know the intricacies of its technique.

With such thoughts in mind the writer begs the privilege of submitting in some detail, to the general practitioner rather than the specialist, some illustrations of steps and phases of cystoscopy that may not be so generally understood.

The value of high frequency electricity applied through the cystoscope to *benign* vesical tumors, as devised in 1910 by Edwin Beer, is so pronounced that one cannot refrain from alluding to it although it is now pretty generally understood. In benign growths in the bladder it works wonders, easily and without drawbacks from any standpoint.

But a phase of cystoscopy that is not so well settled nor understood is that relating to *malignant* growths (cancerous) in the bladder.

The view has prevailed, and with justification, that a carcinomatous growth in the bladder that had reached the inoperable stage was *ipso facto* beyond hope of reclaim from any standpoint.

While it is never permissible to indulge false hopes in such cases, nor to lead the subjects of such a grievous malady to optimistic conclusions, it may yet be said that cases of recovery from well attested vesical carcinoma are now sufficiently numerous to justify a more cheerful view than has ever been the case before, and to warrant the application of three measures in particular: namely, radium; intensive x-ray treatment; and fulguration. These three measures have evoked truly wonderful results, well established, in certain cases; and should be given thorough trial before abandoning such cases to despair and morphin palliation.

A case in point is the following: Carcinomatous tumor of the bladder (malignant papilloma); application of radium and fulguration; recovery.

Mrs. J. H. C., age 54, of Jacksonville, Ill., was referred April 5, 1917, by Dr. Carl Black, of the same city.

History: Increasing symptoms for three years past; unduly frequent and painful urination, latterly with definite obstruction or stopping of the stream in the course of its flow. Hematuria, severe at times.

Cystoscopy showed a fimbriated papilloma, about the size of a walnut, attached to the left wall of the bladder and covering that neighborhood including the left ureteral orifice. Pathological report of Dr. Ralph Thompson on a piece of tumor tissue removed by forceps through the cystoscope, was that of well defined malignant papilloma.

*Read in Section on Genito-Urinary and Skin Diseases and Radiology, Annual Meeting, Muskogee, May, 1919.

**Illustrative drawings of this article not reproduced. They will appear in Author's reprints.

Electric fulguration (bi-polar current) was applied, beginning April 8, 1917, to which was added 12 hours of 50 mg. of radium element on April 14, repeated July 27, 1917.

Under the influence of these measures the tumor shrank appreciably, and by August 3rd, cystoscopy revealed that a small ulcerated area was all there was to show for the former tumor. But at this time a small additional tumor was seen anterior to the site of the older one. It was fulgurated on September 11th; and October 26th the vesical mucosa was observed to be absolutely clear of all evidences of tumor or ulceration; the urine was perfectly clear, with normal frequency of evacuation; and the general condition had improved proportionately; apparently there had been complete restoration of health, both locally and generally, with a gain of about 25 pounds in weight. Reports since that time (over two years) have indicated a continuation of this satisfactory outcome.

Another lady patient (Mrs. J.) was brought in when apparently in the last stage of decline in every respect. Weight 95 pounds, instead of a normal 135; lancinating pains requiring a grain and a half of morphin hypodermically daily for mere alleviation of her suffering.

The bladder was two-thirds full of carcinomatous growth, the origin of which could not be seen for lack of working space. The treatments mentioned gradually and progressively reduced the tumor to a mere ulcerated area the size of a finger nail; co-incidental with which there was general improvement: relief from suffering and from the demand for morphin; none was taken for a period of ten months in 1918, and the patient's weight became 135 pounds. The patient again took up household vocations of a lighter nature and could look on life with a more cheerful mein.*

In these cases we have been accustomed to apply the radium element, 50 mgms. in a capsule enclosed in a black rubber cover, to which was attached an ordinary rubber catheter, for introduction. Seances from 8 to 10 hours repeated twice or thrice, according to the reaction obtained.

X-ray treatments have been of the "intensive" variety, as have been well delineated by Pfahler² of Philadelphia.

Fulguration with the bi-polar current has been administered through my Universal and Operating Cystoscope (Wappler make), using the Bugbee electrode through either the direct or indirect telescope, according to the location of the tumor.

It is the writer's view that the radium and x-ray applications weaken the resistance of growths and make them more amenable to the direct assaults of fulguration. The fimbriated papillomata, even though definitely carcinomatous, offer much better prospects of reduction and dispersal than the solid tumors. The infiltrating growths offer a less favorable outlook than those tending towards pedunculation.

PROSTATIC CARCINOMA.

Prostatic carcinoma offers distinctly less opportunity for cystoscopic therapy; and reduces the surgeon to three measures that, while not presenting any certainty of permanent relief, do afford a surprising and extended immunity from suffering in numerous instances.

By suprapubic prostatectomy most of the carcinomatous tissues and obstructing material can be removed, leaving a good channel for urination; and during

*Two other cases, equally portentous, though not developed to the same extent, have responded favorably. (Garfinkel; Blalock).

²G. E. Pfahler; Roentgen Therapy and Treatment of Deep-Seated Malignant Diseases. J. A. M. A., 1915, Vol. 64, p. 1477.

and after convalescence from the operation prophylactic measures against the return of the growth may be taken in the shape of application of the radium element or emanations through the suprapubic wound, and successive seances of intensive x-ray treatment. One patient (Ainsworth) is urinating satisfactorily now, three years after operation, and there has been no appreciable return of the growth, although for a time following operation it seemed that the rectal wall was about to break down from carcinomatous involvement. The general condition of this patient is equally as good, or decidedly better, in all respects than before operation.

In another patient three and one-half years after operation, there is fair ability to urinate and excellent general health; but the presence of 5 or 6 ounces of residual urine attests the recurrence of obstruction to a certain degree although no tumefaction is evidenced to rectal palpation. The Kollman dilator is used occasionally for maintaining patency of the prostatic urethra.

In a number of instances we have been surprised and gratified at the excellence and duration of results obtained in this way in connection with prostatic carcinoma.

FOREIGN BODIES AND STONE IN THE BLADDER.

There can be no doubt about the feasibility of grasping and removing from the bladder various foreign bodies such as hair pins, pieces of straw or stick, etc., by means of the operating cystoscope and appropriate accessories.

Success in removing calculi depends mainly on their size and density, so far as my own equipment is concerned. I have never been able to obtain or have made a satisfactory cystoscopic lithotrite. The recent war interfered with the execution of plans of a cystoscopic lithotrite that had been submitted to makers by me.

Where the calculi are small, or of such soft and phosphatic nature as to make them fragile, they may be reduced by successive bites with the bullet forceps to a size that permits their removal through the sheath of the cystoscope, or even by dragging them, together with the sheath, telescope and forceps, as shown in the illustrations accompanying reading of this paper. Fig. X shows, feebly, the view we have in one bladder of a patient 79 years old, who in addition to an enlarged and obstructing prostate, had about 2,000 calculi of various sizes in the bladder. They made an impressive sight through the cystoscope. We gathered over 1700 of them herewith shown, clearing the bladder by washing through the cystoscope sheath in successive sittings, hundreds at a time; and finally using the forceps for removing the larger ones.

When the patient had been relieved of this source of infection and irritation and had been drained a sufficiently long time via retained catheter, he was put through suprapubic prostatectomy successfully and went home relieved of all urinary disturbances.

PROSTATIC ELECTRO INCISION

An operative measure that has given much satisfaction in some cases of contracture at the vesical neck is that afforded by the electro-incisor. This is useful only in the *contracture-form* of prostatic obstruction and is not supposed to supplant the prostatectomy that is demanded for hypertrophic obstructions.

Actuated by the d'Arsonval (bi-polar) current, it is capable of burning a deep groove through the offending ring just at the vesical neck and under the direct vision of the operator. The whole maneuver is so plainly in view and under such complete control that there is practically no possibility of mischance in its application, such as used frequently to attend the blind Bottini operations. Moreover, the absence of hemorrhage, and the closing by cauterization of the wound surfaces against opportunity of infection are features of this method that must be accounted as favorable. Typical instances of its use are given herewith:

CONTRACTURE, WITH COMPLETE RETENTION, SUPRA-PUBIC PUNCTURE AND DRAINAGE.

Judge R., age 64, was referred in October, 1917, by Dr. Levitt, of Oswego, Kansas. On arriving, he was found to be draining the bladder by means of a catheter that had been introduced into the bladder by puncture supra-pubically a month previously. This had been done in another city, and was done to prepare the patient for prostatectomy. His condition was considered so bad that it precluded operation at that time. Retention was complete, in the absence of some form of artificial drainage; and the low specific gravity of the urine and small 'thaleine output attested the participation of the kidneys to a degree dangerous for operation of any radical nature.

The drainage was continued by me, but by means of a catheter in the urethra, which was well borne. When sufficient recuperation had been attained (in about ten days), the prostatic incisor was used, burning a deep groove through the vesical neck posteriorly. There was practically no complaint by the patient either during or after the operation; no hemorrhage, no chill or fever; and he remained ambulatory with the exception of one day. The results were striking: three days after operation, the patient was passing urine in a fine stream and *emptying the bladder*. That was in October, 1917, and no prostatectomy has been considered since. He reports occasionally, with recovered general health, increased weight, and eminently satisfactory urination.

The writer has never been a convert of the punch operation of Young, because of the severe hemorrhage to which that procedure leads. It has been reported that even in the hands of those habituated to its use, strenuous measures have frequently to be adopted to stop post-operative bleeding—even to the extent of opening the bladder, sometimes.

If the same effect can be accomplished by electro-incision, without incurring such risks, it is obviously preferable.

CYSTOSCOPY AND DIVERTICULUM OF THE BLADDER.

While the field for cystoscopic operative work in connection with diverticulum is limited, its application for diagnosis is so strikingly illustrated in the following case that I am constrained to briefly report it:

Case of prostatic hypertrophy with obstruction; suprapubic prostatectomy; failure of relief, with persistent cystitis, sepsis, and loss of health. Later, discovery of diverticulum; its ablation, with definite recovery.

N. P. H., age 73, of Minnesota. Symptoms ten years—of accumulating "bladder troubles," with frequency, increasing obstruction, sepsis, etc.

Suprapubic prostatectomy was capably performed in another city in April, 1917, but without a preliminary cystoscopy. Although the suprapubic wound healed satisfactorily, there was no relief from the "bladder trouble." Intense cystitis continued with urine foul to the Nth degree, and systemic disturbance in proportion.

On conference with me in January, 1918, it was noted that eight ounces of residual urine, rank and decomposed, was left after voluntary urination, and that it was not easy to cleanse the bladder by catheter irrigation. Cystoscopy showed the orifice of a large diverticulum situated posteriorly and to the right of the median line of the bladder. And a radiogram with sodium bromide solution 15 per cent injected, gave the accompanying portrayal of its size and shape—an adventitious sac with a cavity fully as large as the bladder cavity, from which it was separated by a narrow neck.

Supra-pubic removal of this sac was followed by prompt recovery and entire relief from further symptoms connected with the bladder.

The lesson in this case is that cystoscopy is not to be omitted in any of the obscure or chronic vesical conditions, whether operation is to be done or not.

Some surgeons even advise against cystoscopy in prostatic obstruction cases; I believe it advisable in all of them, where practical.

URETERAL STRICTURE.

The subject of ureteral strictures has been very interestingly and profitably discussed by Hunner,* of Baltimore, who has well shown the radiographic evidence in living individuals or ureteral strictures and their potentialities for injury.

Ureteral stricture, as seen post-mortem, is evidenced in the specimen in my possession and here illustrated. The specimen was from a member of our own profession and shows most pointedly the disaster of neglect. The patient was uraemic at the time of entering the hospital and died within three days thereafter. But his specimen affords an object lesson both impressive and convincing. The destruction of the kidney above was plainly due to the obstruction, backward-pressure, infection, suppuration, etc., induced by the strictured ureteral orifice.

One cannot resist the thought that if he had had the diagnosis of his case cleared up in time and had submitted to the required snipping open of the ureteral orifice he might have outlived a number of us in this audience. The caliber of the ureter was good, except at its lower end, as the illustration shows; and there can be no doubt this constricted part of the channel could have been opened by cystoscopic operative measures.

Further elucidating this phase of the question, we had a most interesting case in a gentleman from Arkansas, who had been more or less an invalid for fifteen years when he came for our first conference in 1900. He had been the subject of chills and fever for long periods; during fifteen years had been treated for "malaria" and tuberculosis, latent gonorrhea, and other spectral and elusive maladies—needless to say without success. The old question of exact diagnosis, based on definite investigation, had failed to enter into this case, as, unfortunately, it fails in so many genito-urinary cases.

However, when we did examine him, we found an enormous left kidney, projecting far down into the abdomen; partially movable, irregular in outline, tense and solid in feel.

Cystoscopy revealed the right ureteral orifice readily and a catheter drained clear, healthy urine from this (right) side. But prolonged search for the left ureteral orifice bade fair to prove a failure, until finally I saw a small speck of yellow pus oozing through the wall of the bladder at a point where the left orifice ought to be. Using this as a guide, a fine filiform pointed catheter was, after much maneuvering, inserted into this minute opening. No drainage came until strong aspiration was made on the catheter with a piston syringe, whereupon a dram or more of thick, yellow pus was obtained. No urine was at any time obtained from that side. After several seances, it was proved that the left kidney, instead of being a solid tumor, was an enormous pus-sac, tense and rigid, and absolutely beyond any functional capability. Furthermore it was found on removal (lumbar nephrectomy) that no cause for the destruction could be discovered other than the pin-point constriction (stricture) at the ureteral orifice.

The recognition was made and action taken in this case early enough to save the patient's life, but not his kidney. Removal of the latter (Fig. X) was followed by complete recovery of general health, normal weight and renewal of business activities.

As to the methods of cystoscopic attack in ureteral strictures, that depends on the location of the constriction, as well as accompanying conditions.

An orifice may be so narrow that nothing but a filiform bougie will enter; and this will then be the instrument of choice. In entering, it paves the way for the thicker part of the shaft to follow, thereby divulsing and opening the orifice to the caliber of the bougie, at least. This may be enough to permit the entrance

*Hunner: Trans. So. Surg. Assn., 1918.

of one of the metal dilators with which more direct dilation may be made. These dilators are so constructed as to afford dilation in several ways; but my preference is for the one with parallel sides, distributing its effect evenly over a greater length of channel than the others. It gives a considerable dilating force, also, something that has been difficult of attainment in so small an instrument. In fact, on several occasions I was told by makers that it would be impossible to produce this instrument, but it was finally made, after five years of endeavor.

The same sequence of instrumentation (at first the graduated bougie, later the parallel dilator) may be used with equal propriety when the stricture is located higher up in the ureter. Of course, this does not refer to obstruction from kinking of the ureter, which may require open operative measures of some sort for its relief.

As shown in some of our radiograms, the metal dilators may be introduced from three to four inches up a ureter; beyond that bougies must be utilized.

URETERAL STONE.

It is a simple matter to remove a stone hung in the mouth of a ureter. It is either grasped with the bullet forceps and withdrawn, or the orifice is stretched widely, permitting the stone to pop out into the bladder cavity, whence it is readily removed with the forceps.

When the stone is blocked higher up in the ureter, the first endeavor, following the establishment of the diagnosis, is that of *dilating the ureter below the stone*. Before this is thoroughly accomplished, it is decidedly bad judgment to try to grasp the stone with the object of removing it directly. If the operator should succeed in grasping the stone, he would very probably be unable to remove it through the undilated channel, and it might become a serious question as to whether he could remove the forceps, either. It might become locked there by fixation in the narrow channel. But if the ureter below the stone has been well dilated, as it is capable of being, grasping and removal of a stone is both feasible and safe. Furthermore, if on grasping the stone it is found that there is not yet enough room for withdrawing it, there still is opportunity for dislodging it from the forceps and repeating the dilatings.

Two stones have been removed by the author from the ureters of two different patients in this manner; and he had reason to be pleased in each instance that he had secured good dilatation of the lower ureter before successfully "fishing" for the stone. The cases were the following:

Ureteral Calculus removed by Ureter Forceps after ten years duration.

Miss E. B., age 25, Granite City, Illinois. Referred by Dr. R. W. Binney.

Pain in left lumbarureteral region for past ten years; at times so severe as to require hypodermics of morphia.

Increased frequency of urination, until latterly it has been about every half hour, daytime, and twice nightly.

Examination: Marked tenderness of left kidney and ureter. A small triangular shaped stone was shown in left ureter, both by catheter obstruction and catheter radiogram, located about 4 cm. above ureteral orifice.

November 8, 1918, dilating of the rather contracted ureteral orifice and channel below the stone, gaining a definite enlargement of the caliber. No endeavor to grasp the stone.

November 15th, repetition of the above, using satisfactorily the ureteral dilator, parallel model, until it passed in and out readily. Directly afterwards the ureteral forceps was inserted, its jaws held widely open as they approached the stone. The grasping of the stone was evidenced in two ways; by lack of closure of the forceps-handle and by the lessening of easy passage through the ureter in efforts at withdrawal. Indeed, had not the precaution of wide dilatation of the ureter been observed much difficulty would probably have been met with in the withdrawal.

The triangular shape of the stone, added to the space occupied by both stone and forceps combined, made this effect. But inasmuch as a good ureteral caliber had been secured beforehand, the extraction was made without much difficulty; and the stone, while still held in the jaws of the forceps, was plainly visible through the cystoscope.

The patient has had no further symptoms of stone or colic, and is re-established in her regular vocation.

Direct Removal of Ureteral Stone by Ureteral Dilator.

Dr. M. H. T., physician, age 44, referred by Dr. Monroe, Bonne Terre, Mo. Patient had symptoms of ureteral colic for nine months prior to his first conference of July 29, 1918.

At the first cystoscopy, July 31, 1918, no obstruction was felt to the catheter, although a radiogram previously taken seemed to show a stone in the right ureter.

The parallel ureteral dilator was used along the lower two inches of the ureter; and on withdrawing it we were much surprised to note a small, oblong stone retained in the bars of the instrument (specimen exhibited).

No reaction or disturbance followed. But another radiogram taken the following September 15th, showed the shadow of another calculus which has not been removed; opportunity for doing so has not been offered.

Removal by Cystoscopic Manipulations.

J. S. F., age 44, conference April 2, 1914. First attack of ureteral colic one year previously (March, 1913). Other attacks followed, together with bloody urine; agonizing pain in right ureteral region, requiring large doses of morphin. A ureteral stone showed under the x-ray about three inches above the right orifice.

May 31, operative cystoscopy and dilatations. June 1st, operative cystoscopy with incision of ureteral meatus with ureteral scissors. June 2nd, voluntary passage of stone the size of a pea but oval in shape, like a grain of wheat. Complete and permanent relief.

While this method of direct removal with forceps may seem more striking and possibly gratifying to the patient, as a matter of fact success is vastly more frequent with the more gradual and less spectacular methods of repeated dilatation of the ureter and descent of the stone and its final expulsion into the bladder, whence it either escapes by voluntary urination, or is removed by the cystoscope.

It is thought by some that the mere dislodging of a stone from its customary position and attachments in a ureter is highly instrumental in bringing about its descent and evacuation. Thus is explained the frequent passage of stone after a simple catheterization of the ureter. But it is obvious that there are many other cases of incarcerated stone not amenable to such simple measures, and a more energetic offensive must be undertaken, as outlined above.

A stone of unusual dimensions such as shown in Fig. X, is recognized as impossible of delivery by cystoscopic measures, and as naturally and properly falling within the province of open surgical operation. But when it is remembered that such operations are attended by serious risks and accidents, such as have been recounted by Moschowitz,¹ and Peterkin,² and by a mortality, as determined by Tenney,³ of 15 per cent, it cannot be denied that they should be avoided when possible, giving place to the simple and less heroic means of operative cystoscopy. The belief is herewith again⁴ expressed that it is highly unjustifiable to subject a patient to open operation for the removal of ureteral stone without first giving him

¹Moschowitz: Ann. of Surgery, Philadelphia. Dec., 1908.

²Peterkin; International Jour. of Surgery, Feb., 1909.

³Tenney; Boston, M. and S. Jour., Feb. 4, 1904.

⁴See previous papers by the author: "Ureter Stones and Their Removal by Cystoscopic Methods," Surg., Gyn. and Obst., April, 1915; Urolog. and Cutan. Review, 1918, No. 8; Surg., Gyn. and Obst., June, 1917.

the opportunity of having its removal attempted, at least, by operative cystoscopy. In case that fails, the patient is still in position, and without prejudice to have the open operation performed.

INFLUENCE OF MEDICAMENTS.

Glycerine, liquid albolene; solution of papaverin and other agents have been recommended and used in connection with catheter for assisting in removal of stone.

A NEW SIGN FOR DIFFERENTIATING STONE FROM PHLEBOLITH.

We are of course all familiar now with the possibility of mistaking a radiographic shadow of a phlebolith or concretion in a pelvic vein for the shadow of a ureteral stone; and probably surgeons no longer cut into the abdomen on the basis merely of such shadowgraphs. They have learned the necessity of checking up the x-ray picture with one that includes an x-ray catheter within the ureter, to see if the supposed stone shadow lies in the line of the ureter. Phlebolith shadows under this test usually appear distinctly separated from the ureter line and are thus recognized in their true character.

But occasionally a shadow occurs in the line of the ureter about which there is a question. Stereoscopic radiograms are used for making further differentiation, getting the shadow from differing angles and possibly showing the separation sought. The writer has lately run across an additional method that seems useful. A radiogram taken with an ordinary x-ray catheter displayed a shadow apparently in contact with the catheter. As a further test, another radiogram was taken, this time with metal forceps passed well into the ureter. The forceps being more rigid than the catheter previously used, straightened out the curve and plainly showed the separation of the shadow from the line of ureter.

Local anesthesia for cystoscopy is best induced, in the writer's belief, by means of his urethral tablet depositor (Wappler make), through which soluble tablets of procaine, cocaine or alypin are dropped into the prostatic urethra and when partly dissolved are spread over the adjacent membrane.

The writer has never partaken of the view that local anesthesia should be habitually avoided in doing cystoscopies; and has many times listened with sympathy to the narrations of patients who had previously been subjected to alleged "painless" work of that kind. It assuredly had not added, in the estimate of such patients, to the laurels of cystoscopy as a source of comfort.

URETERAL SYRINGE.

The most convenient form of sterilizable ureteral syringe with which the writer has become acquainted is the one devised by Dr. Moore and myself. It is a glass tube with a rubber bulb. Attachment with any sized ureteral catheter is instantly made by applying the bell-shaped nozzle of the syringe *over* the catheter end. Air is easily excluded in using this syringe and its capacity is ample.

HISTORY OF CASES.

R. B. W., age 30, referred by Dr. Woolsey. Suffered for months from ureteral and renal colic. So severe they required the use of morphin. X-ray shows shadow in region of left ureter, proved up by x-ray with catheters in place. Met with obstruction in left ureter about one inch from orifice. One week after this manipulation the patient had a colic and passed stone out of ureter and urethra exhibited in spec.

C. E. M., age 24, referred by Dr. R. L. Campbell, East St. Louis. Patient has suffered about six months with colic every two or three weeks. Bloody urine occasionally. Cystoscopy showed right ureter much enlarged with a jagged stone hung in the orifice. Grasped this with the alligator forceps but it was too large to be taken through the cystoscope, so broke it into two pieces and washed out through cystoscope.

M. S. L., age 26. Suffered two attacks of colic with blood in urine. An x-ray shows shadow in right ureter, and catheter met with *obstruction at six inches*.

After three cystoscopic manipulations the patient returned home and later passed the stone.

Father H. For *four years* suffered with severe renal colic on left side at short intervals. Pain had to be controlled with morphin. After several cystoscopic manipulations, the meatus of the left ureter was enlarged and liquid alcohol was injected, then ureter below the stone was dilated, x-ray at various times show the stone to have gradually descended until it is just within the orifice. At the next cystoscopy, the stone sharp and spiculated was found in the bladder. This was broken into three pieces during the removal.

DISCUSSION.

Dr. W. J. Wallace, Oklahoma City: Mr. Chairman and Gentlemen: As a member of this section I feel that we are very fortunate in having Doctor Lewis with us; that Doctor Lewis is one of the pioneers in urology, he has been one of the researchers who has given us new thoughts, new ideas, I suppose as long, if not longer than any one physician in the United States, not only a national but international reputation, so I feel we are very fortunate in having him with us today.

His lesson today is in keeping with his life, his teachings, some of the new uses of this line of work. In commenting on that, it is of such a nature that I do not feel that I can do justice, only to say that I have appreciated the instruction that you have left with us, Doctor.

The prostatic inesor that you have mentioned, it seems to me that that is a very useful instrument at this time, as it fills in a gap that we have needed, in certain cases where we have been unable to reach it by local treatment of the prostate gland, and in these cases these people, perhaps, are too far advanced in years and sepsis, to do a prostatotomy, so in this method it appeals to me as being one that we can use in certain selected cases.

As to the vesical calculi, laparocholecystotomy, personally, I do not like that, and I suppose because I do not know how to use that. I prefer, in those cases where I have a vesical calculi, to do a suprapubic cystotomy, lithotomy, and remove the stone, close the bladder and leave a long dwelling catheter, and I have been enabled, personally, to get better results, but I attribute that to perhaps not being skilled in this line of work.

As to catheterizing ureters, my experience has been so limited that I am unable to express myself on that line.

The tumors of the bladder the Doctor mentioned, I gave high frequency and begun fulgurating everything in the prostatic portion of the urethra into the bladder, and in some instances I had very gratifying results, in others I did not, but it taught me one thing; to be on the lookout for syphilitic growth and growths. It is very often that we have a syphilitic tumor, and do not forget before we attempt to do a fulguration, to use our cystoscope, and all in these conditions have a Wassermann made on the cases.

Doctor Lewis, closing: I am glad that the Doctor mentioned tumors of the bladder because I omitted to say something that I wanted to in the course of my previous remarks.

I said that where the tumors are benign in character, they would be subject to the attack that was described. Now, I omitted to mention the situation in the presence of malignant tumors. I do not want to slight the subject, but I really am not definite on conclusions, and I say what I would say to a patient. Even in the presence of some malignant tumors that we have proved to be malignant we have a cutting, biting pair of forceps, taking out a part of the tumor, and turning it over to Doctor Robertson of the St. Louis hospital, getting his report that it is a definite malignant tumor of the bladder; in the presence of some of those we have

had them disappear, clean them up and remain well for two years, three years, when we had expected nothing and promised nothing. On the other hand, in the presence of malignant tumors of the bladder we have made utter failures and have had the patient go on and get worse and die, notwithstanding the three forms of treatment we had in this case. Now, I am not making an expression of what we can do, we do not know what we are going to do; we do know that we have been successful in some cases and in other cases utter failures. One, for instance, a young lady up in northern Illinois that for over two years has had an absolutely clean bladder, although she has had a cancerous tumor removed in this way. The methods of treatment are these; the application of radium against the tumor itself, directly, in three or four successive stages, the use of the x-ray intensified treatment shot through the bladder, one series covering three or four days, and then wait for three weeks and then shoot another series through, carry out the use of the fulguration; those three measures serving to make the requirements in operable tumors of the bladder, that, even though they are cancerous, might hold out success in some cases and complete failure in others, and that is as much as I can say about the cancerous condition.

Now, as to the syphilitic tumor that the Doctor mentioned. I think that is a very proper criticism or suggestion and that is a subject that is not very well known, and we have been really in the dark until lately. In numerous cases tumors or ulcers in the bladder have been shown to be syphilitic and capable of being relieved by anti-syphilitic treatment just as various other syphilitic manifestation are. I am very glad the Doctor mentioned that.

BONE FISTULAS.

P. Chutro, Buenos Aires (*Journal A. M. A.*, Sept. 6, 1919), objects to the term osteomyelitis as applied to the suppurative of bone after war wounds, a name which he would reserve for the definite disease occurring in civil practice. He would designate the war complication as bone fistula, a definite condition with characteristics different from true osteomyelitis. The bone fistula, he says, is due to insufficient treatment of wounds, and is a limited osteitis which readily becomes chronic. The two factors dominating it are the presence of a cavity with rigid walls, and the infection of this cavity. Certain peculiarities of these cavities, which communicate with the exterior of the body, are the fungus growths, instead of healthy granulations, which characterize them, underneath and between which it is easy to probe denuded bone. In some cases, the little sequestra of bone are eliminated, and after months or years the fungosities sclerose, and a cure of variable duration occurs. The infection, he holds, is very superficial, and the bacteriology is very rich, showing all the anaerobic and aerobic organisms of such wounds. The infection phenomena are not so prominent, as the cavity has little ability to retain its contents, and the lymphatics around the focus are blocked. But a slight disturbance or an awkward dressing breaks up this blockade, and septic products are absorbed. The treatment varies, according to the bone involved. The incision must be properly placed, and the walls of the cavity cleanly resected. The cicatrization of the bone is by granulation from the depths to the periphery. The surface of the bone must remain sterile for several weeks to provide time for this cicatrization. The Carrel-Dakin treatment finds its place here. Tibial wounds are the most accessible to the sight and so have enabled Chutro to study the cicatrization. When there is a clot adherent to the bone, the Carrel-Dakin fluid fails to penetrate, but begins to act when this becomes detached. When the bony surface is covered with granulations, the secondary closure of the wound may be done, but this is likely to leave an adherent scar, and Chutro prefers to keep up the irrigation until complete healing occurs. He has obtained, on the whole, very satisfactory results in these cases, even after many previous operations had failed.

Every sore throat is a danger signal, says the United States Public Health Service, and may indicate some acute, infectious disease, such as diphtheria or scarlet fever. Take no chances. Have a physician make an immediate examination. A few hours delay may cause death.

Rats cost every person in the United States one-half of one cent a day, says the United States Public Health Service. Write to the Surgeon General, Rupert Blue, Washington, D. C., for an instructive bulletin on how to get rid of them.

IMPORTANCE OF UROLOGICAL EXAMINATION IN CASES OF OBSCURE ABDOMINAL PAIN AND IN BLADDER AND KIDNEY INFECTIONS.*

J. HOY SANFORD, M. D.

MUSKOGEE, OKLAHOMA

During my 15 months' service in an Army Base Hospital I was strongly impressed with the importance of a thorough urological examination in all cases of obscure abdominal pains. Renal calculus, ureteral calculus, T. B. infection of the kidney, stricture of the ureter, pyelitis and pyonephrosis were a few of the cases diagnosed by a thorough urological search that had to be differentiated from appendicitis, gall bladder infections, and infection of the pelvis in women. In all cases of suspected appendicitis where the diagnosis is not well established, ureteral catheterization in conjunction with uretero-pyelography and radiography should be done to exclude renal and ureteral calculus and stricture of the ureter. Report of the following cases will conclusively prove the value of my statements:

Case 1. Sergeant K., age 26. General appearance good. Complained of pain in the lower right quadrant, at times severe. Had been operated on in civil life for appendicitis but without much benefit. Microscopic urinalysis showed few pus cells and red blood cells. X-ray revealed two shadows along the course of the right ureter and the question arose as to whether the shadows were intra- or extra-ureteral. No urinary symptoms were present, he had never passed blood and had never had any pains that would lead one to believe that he had suffered a renal colic attack. Cystoscopy, double ureteral catheterization with x-ray catheters, uretero-pyelography, functional test, and radiography were done with the following result: Bladder normal except the right ureteral orifice which was a trifle gaped and irregular in appearance, left ureteral orifice normal in appearance. Right ureter catheterized and an obstruction met about 3 or 4 cm. from vesical orifice. Left ureter catheterized, no obstruction met, urine clear in appearance, specimen collected for bacteriological study, 1 cc. phenolsulphothalein injected intravenously and the following result noted: Phthalein appeared in three minutes on left side and totaled 40 per cent the first fifteen minutes. A trace appeared on the right side in fifteen minutes. 6 cc., 25 per cent sodium bromide injected into right ureter and 8 cc. injected into pelvis of the left ureter. Patient radiographed. Results of radiography: Two ureteral stones seen in right ureter, one at the tip of the catheter and one above about 1 cm. from the tip of the catheter. Ureter was dilated above and below stones. Stereoscopic plates were made. Left ureter and kidney normal in outline. Both stones were successfully removed at operation.

Case 2. Private C., age 24. General appearance fairly good, entered hospital complaining of pains in the right lower quadrant, with some slight bladder disturbance. Had passed blood on several different occasions but not of late. Denied ever having had sharp pains in the kidney region and radiating down the course of the ureter. Did complain of a dull steady pain in the back on the left side. Had been operated on for acute appendicitis but his condition had never been relieved. Leukocyte count was 20,000; slight sensitiveness but no rigidity in right lower quadrant. Microscopic urinalysis showed pus cells and a few red blood cells. X-ray showed a suspicious shadow in region of pelvis of the left kidney. Cystoscopy, double ureteral catheterization with x-ray catheter, pyelography and radiography were done and the following noted: Bladder capacity 200 cc. Anterior bladder wall negative; posterior bladder wall showed a chronic inflammation with muco-purulent masses floating about base of bladder—both ureters were in a congested and inflamed area but were free from ulceration and edema—both appeared apparently normal in outline. Both were catheterized; no obstruction met in the right ureter, urine coming from right kidney clear; specimen

*Read in Section on Genito-Urinary and Skin Diseases and Radiology, Annual Meeting, Muskogee, May, 1919.

sent to laboratory for study. Left ureter easily catheterized but an obstruction was met high up toward the pelvis of the kidney; urine cloudy from left kidney; specimen sent to laboratory for study; laboratory reported at a later date colon bacillus and red blood cells and pus. 8 cc. of sodium bromide, 25 per cent injected into pelvis of right kidney and 10 cc. injected into pelvis of left kidney. Patient x-rayed. Results of radiography: Right kidney normal in outline, left kidney showed two stones in pelvis of the kidney with blunted calices. Patient was discharged from the army.

Case 3. Mrs. G., wife of a line officer. Entered hospital complaining of intermittent pains low down in the left pelvic region with an intermittent cystitis. Had been operated on in the East for pelvic trouble on two different occasions, but without much relief. Surgical men made a vaginal examination which was negative. Microscopic urinalysis showed pus cells; leukocyte count 15,000. Upon resting in bed for a short period of time the patient said she always got relief of symptoms. Bladder symptoms were severe at times and at times she was free of any urinary disturbance at all. Hematuria had been noticed on several different occasions. This symptom lasted only a short time at each appearance. Cystoscopy done and the following noted: Bladder capacity 150 cc. Anterior bladder wall negative, posterior bladder wall negative except an area about the size of a quarter around the left ureteral orifice which was ulcerated and congested with marked retraction of the ureteral orifice. Catheterization of the ureter was attempted, but due to the retraction and ulceration was unable to locate the orifice. Right ureter was catheterized; no obstruction met; urine clear; sent to laboratory for study. At a later date indigo-carmin was injected but I was never able to see it coming from the left ureter—it was readily seen coming from the right side. Laboratory reported many staphylococci from right side. Right ureter was catheterized again and functional test done. Kidney showed about 25 per cent. Combined functional showed 60 per cent. Laboratory reported T. B. found under repeated examinations with urine drawn under aseptic precautions from bladder. The pathology present about the left ureter was very suggestive of T. B. and with the T. B. found in the urine the diagnosis was confirmed. On account of the functional test being below par on the good side operation was not advised at this time. Operation at a later date was done and a tuberculous kidney removed.

BLADDER AND KIDNEY INFECTIONS.

Cystitis as a disease primary in origin is rare and it is usually representative of some coexisting infection along the uro-genital tract. Majority of infections of the bladder are bacterial in origin, though chemical or toxic influences may produce inflammatory changes. Since the introduction of the cystoscope, ureter catheter, and improved laboratory methods, our knowledge of bladder infections has increased. By these methods we are able to eliminate many of the inaccurate diagnoses and to stop calling all cases of cloudy urine cystitis. Non-bacterial cystitis may be the result of chemical, mechanical, or traumatic influences, but the three most important predisposing factors to bacterial invasion of the bladder are trauma, congestion, and retention. Rough instrumentation, tumors, stone, and foreign bodies in general will produce trauma and a secondary cystitis. Congestion of the bladder from exposure to cold, saturation of the urine with various salts, excessive intercourse, and alcoholism predispose to bladder irritation. Retention of the urine is the most common factor in producing cystitis. Prostatic obstruction, carcinoma, contracture of vesical neck, stricture of urethra, tumors, diverticula, and various spinal cord diseases and tabes cause retention of urine with a resulting cystitis. Colon bacillus, tubercular bacillus, typhoid bacillus, and gonococcus are the bacteria most frequently found in the bladder. Most of the acute bladder conditions are coccal and the chronic bacillary. Kidneys and urethra are the two most common ways of bacterial invasion of the bladder, but infection can occur from a neighboring focus and by the circulation. I will not dwell in detail on the pathology noted in acute and chronic cystitis, but will enumerate a few of the changes present in the bladder mucosa and musculature in both con-

ditions. In acute cystitis, the appearance of the mucus membrane is one of congestion and redness and this is particularly well marked about the trigone and vesical neck. Mucus membrane is swollen and loses its glistening, shiny appearance and is thrown into folds and elevations with hemorrhagic spots here and there. The bladder musculature is thickened and swollen. In chronic cystitis, mucus membrane becomes slate-colored and mottled in appearance while irregular bullous elevations and projections are seen here and there. Musculature becomes very much thickened and as a result the bladder capacity is markedly diminished. Symptoms of acute and chronic cystitis are hard to differentiate clinically. Cardinal symptoms are: frequency of urination, pain, pyuria, and hematuria. Diagnosis of cystitis should not be based on symptoms but a thorough search of the entire uro-genital tract should be made to locate the focus of infection. The most intelligent way to diagnose a resistant case of cystitis is by the use of the cystoscope and ureter catheter. If a case of cystitis does not abate in two weeks to the standard bladder therapy, the infection should be searched for either in the upper or lower uro-genital tract. At least 75 per cent of bladder infections are renal in origin, hence the importance of ureteral catheterization and study of the catheterized specimen bacteriologically. The classical symptoms of cystitis, pain, frequency of urination, and pus are also found in infections of the upper and lower uro-genital tract, so it becomes necessary to make a diagnosis by exclusion. The usual renal infections requiring elimination are pyelitis, pyclo-nephritis, pyonephrosis, tuberculosis, and renal calculus. Infections below requiring elimination are stricture of urethra, prostatitis, seminal vesiculitis, posterior urethritis, and bacteriuria. The cardinal symptoms of renal infections are bacteriuria, pyuria, temperature, pain and sensitiveness in the loin and back, with frequent and painful urination. The treatment of cystitis consists in rest, heat, free catharsis, bladder irrigation with antiseptic solutions, anodynes, and the removal of the cause. With the report of a number of cases that came under my observation during my service in an Army Base Hospital, I hope to bring out the importance of a thorough urological examination in all cases of persistent cystitis and in renal infections. Will try and demonstrate the value of cystoscopy, ureteral catheterization, and study of the catheterized specimen bacteriologically, functional tests, pyelography, and radiography.

Case 1. Soldier, entered hospital complaining of passing blood. Four years previous he had a similar attack. Complained of very little pain; looked well; saw active service in France; was dilated for a stricture while overseas; passed no blood overseas. 20 sound was passed; constricted area was found in the posterior urethra. Under rest, heat, and gradual dilation, hematuria promptly stopped. Cystoscopy at a later date revealed a large papilloma situated on the right lateral wall of the bladder immediately above the right ureteral orifice.

Case 2. Soldier, entered the hospital suffering from painful, frequent and bloody urination; much tenesmus and urgency present; had been in this condition off and on for the last three years and had been under bladder irrigation for a long time, but without any results. Under cocain anesthesia, cystoscopy was done and the following noted; bladder capacity 40 cc.; entire bladder was markedly congested and inflamed. Large calculus was seen at base of bladder with an associated bullous edema of the trigone. Suprapubic cystotomy done and the stone removed. All symptoms promptly disappeared.

Case 3. Soldier, entered hospital suffering from acute cystitis; terrific frequency and urgency of urine was present. Condition had been only for the past week. Denied any past venereal infection; had influenza three weeks previous; complained of some pain over both kidneys but it was mild in character. Rest and anodynes were given for a few days, then cystoscopy and ureter catheterization done with the following noted: Bladder capacity 60 cc., anterior bladder wall negative; posterior bladder wall markedly congested and inflamed; trigone acutely congested; both ureters looked puffed in appearance; both ureters catheterized;

urine cloudy from both sides, specimen sent to laboratory for study. Laboratory reported at a later date colon bacillus and streptococci from one side and colon bacillus from the other. Case was one of hematogenous infection zZ. (bilateral pyelitis) following influenza. Renal lavage with silver salts soon cleared the case up. Had three such cases following influenza.

Case 4. Soldier, entered hospital complaining of hematuria and a dull pain in the back. Had the condition off and on for the past twelve years; would go for months without any symptoms, then it would start in and bother him for months. Suffered no frequency or pain upon urination. Cystoscopy, double ureteral catheterization with x-ray catheters, and radiography with catheters in situ, was done with the following noted: Bladder capacity normal; anterior bladder wall negative; posterior bladder wall negative; both ureters normal; both catheterized; urine slightly cloudy from both sides; specimen sent to laboratory for study. Patient x-rayed with catheters in situ; x-ray negative; laboratory reported colon bacillus and streptococci on one side and colon bacillus on the other. Case proved to be one of bilateral renal pyelitis. Renal lavage with silver salts produced excellent results.

Case 5. Mrs. M., wife of a line officer. Entered hospital complaining of pain in the right kidney region of four years' duration. Kidney palpable and movable. Had been having chills and fever every few months with great loss of weight; right kidney was very sensitive to the touch at times, and she could stand no pressure like a tight band around the right side at any time; had to discontinue wearing corsets; complained of passing large amounts of pus whenever she would have an attack of pain followed by fever and chills; at times she would have some bladder disturbance. Urinalysis showed pus, and leukocyte count was 20,000. Cystoscopy, ureter catheterization, functional test, and radiography done with the following noted: Bladder capacity normal, anterior bladder wall negative; posterior bladder wall showed a chronic inflammation; muco-purulent masses were seen floating about the base of the bladder; trigone chronically congested; both ureters normal in appearance. Right ureter catheterized and a distinct obstruction was met about 4 cm. from the vesical orifice; left ureter was catheterized, no obstruction met; urine clear from the kidney. Functional test showed the left kidney 40 per cent. X-ray with catheters in situ showed a calculus in right kidney with an enlarged kidney; left kidney and ureter normal. Obstruction in the right ureter was evidently due to a chronic thickening of the ureter due to the infection from above. Nephrectomy was done and multiple abscesses of the right kidney with a stone were found. Kidney was just a shell.

Case 6. Soldier from overseas, came in to the hospital suffering from cystitis which he said was of eight years' duration. Had previously had a suprapubic wound for contracture of vesical neck but did not get a very good result as he still suffered from the frequent painful urination. Had at one time passed renal calculus. General condition good. Cystoscopy done and the following noted: Bladder capacity 40 cc.; much tenesmus and urgency was present during the cystoscopy; anterior bladder wall was congested and the old cicatrix of the former operation was slightly ulcerated; posterior bladder wall was markedly congested and thickened; trigone was chronically thickened and congested; both ureters were apparently normal in appearance; both catheterized and an obstruction was met in the right ureter about 1 or 2 cm. from the vesical orifice; left ureter was catheterized; no obstruction met; urine clear from that side; specimen sent to laboratory for study. Patient x-rayed with catheters in situ; results of radiography were negative. At a later date I dilated the stricture of the ureter on the right side. After about three dilations I did a double ureteral catheterization, functional test, pyelography, and radiography which proved negative, as did the catheterized specimens sent to the laboratory. Repeated Wassermanns were negative, as were urinalysis for T. B. The above examination excluded the upper uro-genital tract. A catheterized specimen from the bladder obtained under aseptic precautions

was sent to the laboratory and colon bacillus found in large numbers. I requested an autogenous vaccine and began the vaccine treatment on the case in conjunction with instillations of 25 per cent. argyrol, acid sodium phosphate 20 grains daily with 10 of urotropin and the results were very pleasing. Case proved to be a severe colon bacillus infection of the bladder with phosphaturia.

Conclusions: 1. In all cases of cystitis that do not respond to the standard therapy of treatment in a reasonable length of time, cystoscopy and ureteral catheterization should be done and where indicated functional tests, pyelography, and radiography. 2. Renal infections cause nearly 75 per cent of bladder infections and should be searched for early. 3. In all cases of obscure abdominal pain where the diagnosis is not well established, and this is particularly true in the appendix region, the patient should be subjected to a thorough urological examination to exclude pathology in the upper uro-genital tract.

DISCUSSION.

Dr. C. B. Taylor, Oklahoma City: I want to congratulate Doctor Sanford, first, for the remarkably concise and complete way in which he presented a subject of such magnetism, and I do want to emphasize what he so well brought out.

First: Cystitis. Since we are making more and more use of the cystoscope, an instrument of precision, we find that a very small per cent of cystitis is primary; look above or look below, if you do not find it in the urethra, look higher through the urethra up to the kidney. In cases of referred pain, ureteral catheterization is imperative. You will find scattered through the report cases that have had the wrong kidneys removed, whose condition was diagnosed clinically without the cystoscope, and without the ureteral catheter because of the referred pain, tubercular kidney, and once in a while having pain on the opposite side, having a sound kidney removed, leaving the patient with no kidney at all. The value of the cystoscope is being appreciated, I think, more and more by the general surgeon. The careful general surgeon nowadays, in all obscure abdominal pain, is calling for the urologist to help him in his diagnosis. In the past at Camp Beauregard we had a man who had been operated on for chronic appendicitis and he didn't get well, in one hospital in Texas; in another hospital in the south he was operated on for a gall-bladder condition, and he didn't get well; came up before the disability board for a discharge and they advised a complete renal examination; he was found to have a deformity, which was corrected, and the man was completely restored to health. He was on the point of having physical disability and given a pension because no one had thought to run a renal catheter to his kidney and find out.

I think when the general surgeon will call to his aid a urologist, he will have a great deal more success in cases of chronic appendicitis than he has at present.

Dr. R. T. Edwards, Oklahoma City: Gentlemen, I was passing down the street in Oklahoma City the other day and the wind was blowing; passed a corner, a number of ladies passing by, skirts blew up there, a handsome young man just in front of me, and he saw something and he stopped and he turned around to me and he says, "Did you see what I saw?" I says, "I don't know, what is it?" He says, "Why, I saw a snake." Doctor Lain, I don't know whether he went to the same dinner that I did Sunday night or not, but I am satisfied his auto-intoxication was not half as bad. I have enjoyed this paper from Doctor Sanford very, very much indeed.

I claim particular credit from the fact that Doctor Sanford is located in Muskogee, and I think that the physicians of Muskogee owe me a little vote of thanks because you have a splendid young man here in the urological line in your midst. Doctor Sanford has proven himself a very worthy man. His subject has been most thoroughly covered and I do not know of any remarks that I could make, that I care to make, except those of commendation, with, perhaps, this point.

All obscure pain about the lower abdomen, all cases of obscure pain should,

by all means, have a cystoscopic examination and a ureteral examination, a bladder examination, conditionally, that there are symptoms of cystitis, pain, frequent urination, and the passage of blood. There are cases that do not have these symptoms in which I think it would be more conservative treatment to avoid a cystoscopic examination, except by a man familiar with those instruments. I think that is the only point, the only criticism that I could possibly make on that paper, except one, as I say, that of commendation.

Dr. J. S. Hartford, Oklahoma City: The improvement upon the cystoscope and the x-ray interpretation of cystoscopic work has made possible the presentation of the paper we have heard. They are to emphasize certain pelvic conditions where the diagnosis is not clear. That a cystoscopic examination should always be made, especially in this class of cases, women who are approaching the menopause with diagnoses of deviations of the ureter or a condition of pathology that may require the removal of the uterus, in those particular types of cases I think that cystoscopic work should always be done.

The second class of cases which have presented much trouble in diagnoses is the appendix, and chronic gall bladders, and cystitis. I think in this class of cases we should always have an interpretation given us, and in kidney condition by the aid of cystoscopic work. I am hoping that our men in this line of work will develop a little better technique in bringing out the pelvis of the kidney. It seems as though the x-ray sometimes tries to lie to us about what it sees in the pelvis of the kidney. Now, regarding this particular thing, there is room for improvement.

Dr. W. J. Wallace, Oklahoma City: I want to compliment Doctor Sanford on his most excellent paper, it is so very real and it covers every phase of the situation that I do not know just exactly how to begin my comments. Only to again emphasize the point, as others have, about the necessity of a cystoscopic examination in all these chronic pains in the abdomen. There is no doubt many a person that has been operated on for appendicitis, gallstones, tube troubles, have had something wrong in the urological line, such as obstruction of the urethra; taking the ureter, it is thickened following a pyelitis; we have pathology of the entire ureteral tract which extends into the bladder and which can radiate a great many adhesions and pains, referred pains, which would throw a great many of the surgeons off.

Now, as to cystitis, I frequently have cases referred to me; they say, "Doctor, this patient is suffering from cystitis." An examination shows a fairly good condition of the bladder, maybe with the exception around one or the other orifice, with a showing of an inflammation; this showing is perhaps from an edemic, or a pyelitic, condition higher up which has caused it, and sometimes simulates a typical cystitis or pyelitis. We have following that frequency of urination, especially when the bladder is filled and we desire to urinate. We do not mean we have a cystitis, we frequently have vaginitis in the female, and as the cystoscope reveals no cystitis whatever, simply urethritis and inflammation at the neck of the bladder, or else trigonemous.

I think all chronic cases of gonorrhea, chronic cases of prostatitis that come to us, should be cystoscoped, and it is well enough to introduce a catheter into each one of the pelves and culture the urine for examination. It is very easy, and you can do that in your office. As for the pictures, it is best to make two. First: With your opaque catheter of the ureter, that gives you a clear outline of the ureteral tract and the pelvis of the kidney. Following that I inject thorium and take another picture which makes it clearer, shows the outline of the pelvis.

I prefer thorium to sodium bromide, it may be because I have not used sodium bromide very much. The doctor has certainly covered his subject and it is a very interesting one, I only hope the general surgeon and the other people will refer the cases to the cystoscopist before they do border line operations.

Dr. Julius Frischer, Kansas City, Mo.: Doctor Sanford has used extreme care, has been very thorough in his work, and we can only give him the highest praise for the work that he is doing in urology. Now, he is absolutely a pioneer, as far as I know, in regard to the use of sodium bromide for pyclography, I never heard of it previously, and I hope he goes farther in his investigation. I, at least, will try sodium bromide in seeing what it will do and how far it will go. The price of thorium is outrageous, they charge you six or seven times or ten times what it is worth, and if sodium bromide will replace thorium, why, I believe it will be a very good thing. Besides that, Doctor Sanford speaks of the sedative effect of the sodium bromide. You undoubtedly must get some sedative effect from sodium bromide if you use it, so we have to compliment Doctor Sanford again on his excellent work. I hope he continues in his good work.

The Chairman: There are possibly a few points which I would like to call Doctor Sanford's attention to, and the other urologists, and that is in the case of cystoscopy cases of infection below the bladder. Those of you who have had experience in the matter know, and I have oftentimes found, after passing your cystoscope you may have an epididymitis, or you may have a seminal vesiculitis. You probably already have your vesiculitis, and from my experience in cystoscopy cases having an infection below the bladder, unless you are sure that the case is chronic, in all acute cases, practically all acute cases, of infection below the bladder; we will have undoubtedly some discharge, having probably ninety per cent of those cases are gonorrhea and can be diagnosed, but other cases do not, that have a discharge, that have an infection of the urethra below the bladder, of the external urethra, it is not gonorrhea.

I have had experience in the past year with three or four very difficult cases to cure. They were not gonorrheal, they were staphylococcal, and I would suggest that we hesitate in passing the cystoscope in those cases until they have become chronic, anyway.

Another thought suggested in the paper, which I would certainly commend, are those cases of ureteral calculi lodged in the ureter. All of you know that operation on the calculus that is lodged in the lower ureter is a difficult operation and must be undertaken with care. They are not only difficult but they are hazardous; how can those calculi be removed? In my experience, since I have been in Oklahoma, with three cases, I have removed them all through dilatation, a dilatation of the ureter below the calculus. The Doctor did not mention how these were removed, I just wanted to call your attention to that point. In all three of these cases, by dilating the ureter below the calculus by a large sound or a large catheter, the stone usually set up sufficient irritation to produce spasmodic contraction of the ureter, and the stone passed down at least to the mouth of the ureter, and was removed with a pair of forceps and the cystoscope. And it is also inferred by one of the speakers that these cases should be referred to the urologist for examination. I go a good deal further than that. I should say that they should be transferred to the urologist for treatment. Those cases properly belong to the urologist; I think it is out of the domain, altogether, of the general surgeon to operate these cases, and I am absolutely sure that the urologist is the man who should treat them, whether operative or medical.

Doctor Sanford has rendered us, gentlemen, a real service in re-emphasizing the importance of these thorough examinations.

Doctor Sanford, closing: I have nothing to add, except to thank the gentlemen for the kind remarks. I think I can go away feeling that I have accomplished my object, and that is to make the profession at large realize the importance of a urological examination, in cases that are not definitely established and also to have them realize the importance of cystoscopy and ureteral cath-

terization in persistent cases of cystitis. I will feel then that I have done something that amounts to some good.

In regard to Doctor Hays' remarks on ureteral calculus; personally, I think and firmly believe that if the ureteral calculus is low down and you have an operating cystoscope, dilatation of the ureteral orifice, possible a meatotomy of of the orifice, with the injection of sterile olive oil or something of that character, and removal with small operative cystoscope, I think that is the thing to do; referring to the operative procedure, if the condition is higher, of course, an extra-peritoneal incision is made and the stones properly removed.

In regard to the remarks made by Doctor Hays in cystoscopic conditions in the lower genital tract, I think I made it clear that if the condition was in the lower genital tract, such as the prostate, urethra and vesicles, it would not be necessary to cystoscope, because you could definitely determine that your trouble was in the lower urethra, but the cases that I have special reference to were cases that have cystitis, where you can exclude absolutely gonorrheal infection, but where they do not respond to standard bladder therapy.

GUNSHOT FRACTURES.

J. A. Blake, New York (*Journal A. M. A.*, Sept. 6, 1919), describes the characteristics of fractures due to gunshot wounds, according to the nature of the projectile and the bone involved. It was found that operation to prevent or eliminate infection was not indicated in wounds caused by rifle balls, when the wounds of entrance and exit were punctate, but was indicated in all fractures caused by shell or grenade fragments. With shrapnel-ball wounds it was indicated only if good technic was possible. Consensus of opinion was that the operation should be limited to that necessary to prevent contamination and remove actually detached fragments. Primary and delayed suture of the accompanying wounded soft parts could be carried out by a good surgeon under favorable conditions when continued observation was possible. With infection present or anticipated, free independent drainage was imperative. As regards transport of fractures, he says nothing more than that traction is absolutely necessary, and that the Thomas leg and arm splints are the most efficient for the purpose. In regard to the treatment until consolidation and return of function, that of suspension and traction by proper weights and pulleys is most satisfactory. The principles of treatment are given, based on the fact that in every fracture of a long bone the proximal fraction tends to occupy a certain position, determined by the muscles attached, which may be called its place of election or rest. This tendency is readily modified up to certain limits by external force. Traction of the distal fragment prevents overriding and shortening and harmful angulation, while proper suspension permits a certain amount of movement in bed without disturbing the bone. A little amount of motion between the fragments does not delay union, but seems to aid it. With traction and suspension properly applied, it is possible to move all joints of the leg during the treatment. The general rules are to avoid actual fixation, to employ traction to the greatest possible extent for overcoming deformity, and to afford the greatest freedom of movement. The chief and underlying principle is conservation of function. In no case of arm and leg fracture are circular bandages employed, but some modifications must be used in fractures of the femur. In many fractures of the lower third of the femur, the axis of traction must be lower than the axis of the proximal fragment, and support be given below the distal fragment. When possible, in all thigh bone fractures, skeletal traction, preferably with Ransohoff's tongs, is made directly on the lower fragment, and in some cases of fracture of the lower third, the tongs may be used to lift the distal fragment into position by elevating the axis of traction. Some other points are mentioned in detail, and while it is impossible to make a statistical comparison of end-results because of the short stay of patients during convalescence, the results at the end of the war, as far as gunshot fractures are concerned, were beyond comparison with those obtained at the beginning. The treatment is also shown as possessing like advantages in the small number of similar civilian cases.

Beware bootleg liquor, warns the United States Public Health Service, for much of it contains wood alcohol and other poisons. An ordinary swallow of wood alcohol may produce death or blindness. DON'T RISK IT.

Keeping physically fit is the first rule to be observed in keeping well, says the United States Public Health Service. Exercise is necessary to health.

Too much sleep is almost as injurious as not getting quite enough, says the United States Public Health Service. The average adult should sleep eight hours in every twenty-four.

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EDITORIAL

THE DISABLED SOLDIER.

Surgeon General Rupert Blue, U. S. P. H. S., noting that reports coming to his office indicate that men entitled to free treatment under the terms of the War Risk Act, are spending their own money for treatment they may and should receive free, asks physicians everywhere to co-operate in seeing that injustice is not done the soldier who may not know his rights. It should not be forgotten at the outset that the returned soldier entitled to treatment does not have to carry his War Risk Insurance Policy to receive such treatment; that has nothing to do with it; the War Risk Insurance Act, among other things, in addition to provision for carrying insurance policies, which is not obligatory on the man; provides that he shall receive free if he wishes, the following benefits:

Examination to determine his disability on application to any examiner, provided he establishes his identity as the one holding the discharge or certified copy of such. He must produce an honorable discharge before anything can be done for him.

Treatment includes every necessary drug, hospitalization, appliances, even the costlier vaccines and sera, when indicated, in fact anything he may need. Transportation to and from place of examination, meals, etc., if necessary, are furnished. Those confused as to their rights should apply to any branch of the Red Cross, American Legion, Health Officers, any of which will advise him the the course to pursue. Fitness to receive Vocational training rests on examination to determine if man is so disabled that he cannot follow his former calling. Compensation allowed for disability is based on estimated percentage of such disability, and is paid in lieu of Vocational training. Expenses of such training, of course are liberally provided for.

Expert consultants are to be secured for both examination and treatment in any case necessary. Most examiners have their own advisers to whom they refer special cases.

Any physician treating an ill or injured soldier, whose plight arises from his army service, or which existed prior to his entering the army, without notifying the man of his right of every phase of free aid belonging to him, indeed robs one of the able to pay the price.

Criticisms of delay in securing compensation, Vocational training or treatment, should be taken with considerable circumspection. Naturally, some rascals got into the army, malingerers and crooks capitalizing their uniform have worked thousands of organizations, especially the Red Cross, which often are impractically constituted to determine the angles. In some cases conditions have disgusted good men; accidents in transmission of claims, etc., have delayed aid, seemingly to an inexcusable degree, but such cases are few and more than offset by the good done the mass. Most of the men and institutions receiving patients are the best obtainable for the task. All these forces should be given aid and time from every physician in systematizing the great work to its highest efficiency.

SHOULD DOCTORS ADVERTISE?

(This unusually intelligent summing of conditions affecting our profession is clipped from *The Oklahoma City News* of January 24th; will be found in the column known as the "Referee," signed by G. B. P. It is deemed more than worthy of reproduction.—Editor.)

Should doctors advertise?

I heard some men discussing that old, old question the other day.

The medical profession is full of ethics, as anyone will know who has seen more than one physician on a single case.

One of the things barred by the ethical rules is advertising.

And properly so, I believe, insofar as bragging in print about one's professional prowess is concerned.

Big, black display type, telling of the individual ability of Doctor Soandso as against any and all competitors just wouldn't seem right.

But, while the individual should be barred completely perhaps from advertising, the profession as a whole in my opinion should not.

A medical association, for example, should be entitled without any breach of the proprieties to inform the public something of the investment involved.

There is a distinct commercial side to the doctor business.

In fact, the person who becomes a full-fledged physician invests more in time and money before he ever takes in a dollar than does the member of nearly any other profession.

Eight years is about the minimum. The outlay for schooling and books and travel is great. The time before earning rule actually begins is indeed long.

Under the commonly accepted rule of commerce therefore, the doctor is entitled to interest on his investment—to fair pay for services.

But, as compared with the merchant or the clerk or the cook or the artisan, does he get his pay?

He does not.

A certain very considerable portion of nearly any doctor's work goes unrewarded.

Human nature is the reason.

It is human nature to think highly of the doctor when you are sick and to regard him as an unnecessary burden when you get well.

As a matter of the "right now," when pain grips you and fever rages, the physician at your bedside is the dearest person on earth.

You want him to stay.

When he leaves you want him to come back soon, and often. And you don't want him to pull any eight-hour-day stuff either.

If you are worse in the night, it's up to him to come, regardless of lateness or weather.

And during the convalescing stage you desire unlimited free telephone advice about the progress of your case.

By the time his bill arrives however you are at work, and feeling fine. Your illness is but an unpleasant memory, of which the doctor is a sort of background.

And so his bill looks big no matter what it is.

"Three dollars a call!" you shout. "Does he want me to help him become a millionaire?"

Forgetting the while that had a plumber been summoned he would never stuck foot through the front door for less than a five case note, with extra for return after tools, plus carfare though he comes in a Ford, time and a half after five o'clock and double time for Sundays.

And, in the instance of the plumber, hardly eight years preliminary training before ever a bill was presented.

The man who will smile and pass out a cigar while paying a \$4.50 bill for having a carburetor cleaned and adjusted will frown and curse at a \$3 charge for a treatment of the human machine.

I contend therefore that the doctors are entitled to advertise some kind of a pay-as-you-enter system of collections.

And since they don't do it, I am doing it for them.

Now is a time when doctors are working under strain.

Any approach to as serious a flu situation as we had a year ago will mean a night and day rush for every physician in town.

The doctors should receive consideration from the public and prompt and proper pay for services.

PERSONAL AND GENERAL NEWS

✓ **Dr. J. H. Beard**, Watts, has moved to Beggs.

Dr. Tom Boyd, Norman, was reported seriously ill with pneumonia during January.

Dr. H. O. Gowey, Newkirk, has purchased a twenty acre tract of land adjoining that city and will establish his home and a hospital upon the site.

Dr. W. H. Ford, Kingston, said to have been attached to a Red Cross unit in Siberia, has been captured by Bolshevik forces, according to press dispatches.

Clinton will get the first of the State Tuberculosis hospitals according to dispatches; the buildings to cost \$100,000 are expected to be complete by early summer.

Dr. A. E. Hale, Alva, has returned to his home. After discharge from the army and overseas service he spent five months in eye, ear, nose and throat work in New York hospitals.

Dr. A. W. Pigford, Tulsa, has been elected first President-elect, following creation of that office in the Tulsa County Medical Society. Dr. Pigford is now Secretary, and was prior to entering military service.

Dr. H. M. Williams, Wellston, after seventeen years in that city is preparing to move to Oklahoma City. He is in New Orleans taking special work at Tulane and the clinics preparatory to taking up his new location.

Dr. W. G. Phillips, Skiatook, was fired on from the roadside during the night by overzealous, and criminally inefficient deputy sheriffs. Cranking his car after making a country call, he paid no attention to a command to halt issued from the darkness until halted by a bullet; after being searched on the theory that he was a whiskey runner, he was allowed to proceed.

Sapulpa city commissioners found on opening bids for their proposed city hospital that they were short between thirty and forty thousand dollars of the needed amount. The \$44,500 hospital fund was found to be inadequate by nearly one half.

Dr. D. A. Myers, Lawton, Flight Surgeon, attached to military forces along the Mexican border, and **Mrs. Myers**, sustained severe injuries when their automobile was struck by a train. Dr. Myers writes that he was recovering, but that the Hudson could never regain its pristine worth. He philosophically concluded that an Air Man had no business on earth anyway, and that hereafter he would remain up in safety in his natural element.

Dr. O. L. Edwards, Shawnee, corresponding secretary of Pottawatomie County Medical Society, reports his annual meeting of January 21st as presenting the following features: Surgical clinic, City Hospital; Medical Clinic, Physicians Club Rooms; Banquet at the Rotary-Lions Club Rooms, conspicuously dry on account of deprivation of the doctor's liberties during his helpless absence in war service.

The election placed **Drs. G. S. Baxter**, Shawnee, president; **G. H. Campbell**, Asher, and **J. A. Walker**, Shawnee, vice-presidents; **T. C. Sanders**, Secretary; **O. L. Edwards**, corresponding secretary and censor, and **E. E. Rice**, Shawnee, censor.

"Waste Products in Surgery," was presented by **Dr. Horace Reed**, Oklahoma City, the paper being a plea for better surgery and that the patient was vitally concerned in the outcome of his case and should, therefore, have the possibilities of the operation explained at the outset. He also registered a protest against the indiscriminate slaughter of teeth and of tonsils that is now so much the vogue, except when there is conclusive evidence as to their being the offending members whose eradication will benefit the patient.

Dr. L. A. Turley, Norman, talked on "Kidney Function," illustrating his remarks by charts and pictures from original work he has done.

"The Etiology and Treatment of True Asthma," was presented by **Dr. L. J. Moorman**, Oklahoma City. He dwelt on the recent evidence that asthma is the result of foreign protein sensitization (in the majority of cases) and that the particular protein at fault can usually be determined by a cutaneous inoculation test, and then the asthma relieved by desensitizing the patient by means of an extract of that protein similar to the present treatment of hay fever. Further that some of the cases are due to the ingestion of a protein in the diet towards which the patient has an idiosyncrasy. These cases are cured by finding the food at fault and eliminating it from the diet. It is thought that small amounts of the particular protein food-stuff will be obtained from time to time in some of the dishes of the ordinary dietary and thus may desensitize the patient in that manner.

Dr. Reed invited the Society to visit Oklahoma City at some future date, which invitation was accepted.

The Midwinter Conference on Public Health and Legislation of the American Medical Association, called by the Council on Health and Public Instruction, meets in Chicago, Auditorium Hotel, March 4th. **Dr. Frederick R. Green**, Secretary of the Council, announces the following program:

Chairman's Address, **Dr. Victor C. Vaughan**, Chairman, Council on Health and Public Instruction, American Medical Association.

Secretary's Report, **Dr. Frederick R. Green**, Secretary, Council on Health and Public Instruction, American Medical Association.

"Standardization of Public Health Activities," **Dr. George E. Vincent**, President, Rockefeller Foundation.

"Standardization of State Public Health Organizations," **Dr. Chas. V. Chapin**, Commissioner of Health, Providence, R. I.

"Standardization of Municipal Health Organization," **Dr. Allen McLaughlin**, Assistant Surgeon-General, United States Public Health Service.

General Discussion, opened by **Dr. C. St. Clair Drake**, Commissioner of Health, Springfield, Ill., and **Dr. Ennion Williams**, Commissioner of Health, Richmond, Va. . .

Symposium on Health Education of the Public.

"Health Education in the Public Schools—Thirty Years' Experience in Michigan," **Dr. Victor C. Vaughan**, Ann Arbor, Mich.

"Health Education and Activities in Colleges and Universities," **Dr. John Sundwall**, Director, Students' Health Service, University of Minnesota, Minneapolis, Minn.

"Health Education a Function of Municipal Health Departments," **Dr. Haven Emerson**, New York.

"Health Education a Function of State Health Departments," **Dr. W. S. Rankin**, Secretary, State Board of Health, Raleigh, N. C.

"Health Education a Function of the Federal Government," **Dr. Chas. V. Bolduan**, Director, Division of Public Health Education, U. S. Public Health Service.

General Discussion, opened by **Dr. John M. Dodson**, Chicago; **Prof. W. B. Owen**, Superintendent, Chicago Normal College.

The attention of our readers is called to the "Council-Passed" announcement of The Abbott Laboratories, on page 4 of cover. We bespeak for this advertiser the support and patronage of our members. This firm is doing splendid research work, and the scientific products which it is developing include medicinal chemicals never before made in this country.

The research laboratories of several universities are co-operating with The Abbott Laboratories, to aid them in presenting to the medical profession original, scientific ideas in medicinal chemistry.

Judging from the growth of The Abbott Laboratories, this original, scientific work is being appreciated by the medical profession.

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 Meeting place, Oklahoma City, May, 1920.

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Meetings held on first Tuesday of January, April, July and October, Oklahoma City. Address all communications to the Secretary, Dr. J. M. Byrum, Shawnee.

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HYPERTROPHIC STENOSIS OF THE PYLORUS IN INFANCY*

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This condition is a distinct pathological entity and should not be confused with those gastric disturbances which present, at times, some similar symptomatology. There can be no question but what the lives of many infants have been sacrificed because this condition has not been recognized soon enough, or not at all. One of the reasons for this has been because too many men of authority believed this condition to be purely a neurotic one and the spasm had no gross pathology in connection with it. Until very recently this view was generally accepted, viz., that pylorospasm was a neurotic condition in nearly all these cases and the hypertrophic stenosis had nothing to do with it. Recent writers of authority take the stand that these cases of so-called neurotic spasm are, in the main, cases of mild hypertrophic stenosis, but admitting that there are gastric conditions which cause spasm and show no evidences of any stenosis, but they are not cases in which persistent spasm is found. It would seem to be a wise decision, that when in doubt, call it hypertrophic stenosis.

This condition was first brought to the attention of the profession by Hirschsprung, in 1888, when he reported two cases with necropsies, and gave a very complete clinical description of it with the pathological findings. Holt¹ says that without doubt the earliest recorded case of the condition is the one of Hezekiah Beardsley, of Connecticut, who in 1788 described the clinical symptoms and findings at necropsy in an infant, and that one can have no hesitation in concluding from his description that the disease was exactly as we see it today. Pyloric stenosis of infancy is regarded by some writers as essentially a condition of muscular spasm, the hypertrophy being secondary; others have considered the essential lesion to be a chronic hypertrophy, plus the spasm; still others, claim two distinct types, spasmodic and hypertrophic. Strauss and Abt² are conducting some animal experiments to determine the correctness of these views. Their work seems to point to the congenital origin of the condition and are confirmed by Coutley³ who cites a case of Dent's in which this condition was found in a seven months premature fetus. They are working on the basis that if this condition is produced by hypermotility and spasm, they ought to be able to reproduce it by producing spasm and hypermotility, and if this physiologic effect does not produce a hypertrophic tumor, such as is found in congenital stenosis, it would speak highly for the congenital origin of the condition. All their experiments produced hypermotility,

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vomiting and spasm, but no hypertrophy, such as is seen in pyloric stenosis. They assert that the reason the symptoms do not start at birth can be explained by the following hypothesis: The new-born infant for two or three days after birth, gets but a few drops of colostrum and a very small amount of milk; the milk amount gradually increases during the first two or three weeks. They believe that like all other internal organs, and like other physiological functions in the body, the stomach does not reach its physiologic limit as to motility, until that time. That is to say, the newly-born infant has a very small amount of muscular activity, but this physiological action is gradually developed and does not reach its full limit until two or three weeks after birth. It would appear, according to these investigators, that the greatest argument against the physiologic origin of this condition is, that in a physiologic hypertrophy, that portion of the stomach which shows the greatest muscular activity would show the greatest amount of hypertrophy. From a mechanical standpoint, there is less muscular action at the pyloric ring than there is at the pyloric antrum. It is also contrary to conditions in other parts of the body and the rate of tissue growth, that such a tremendous amount of hypertrophy should occur in such a short time. Holt¹ and Downes are firm in their belief that from their observation of these cases, in the early weeks, that *in all cases* the hypertrophy precedes the spasm; that hypertrophy continues long after the spasm has subsided they claim to have ample proof. They have repeatedly observed cases in which unmistakeable tumor could be felt, after vomiting and peristalsis had ceased, and a large number of their cases showed at necropsy, a tumor in children who had died from other causes. In Howland's case a tumor was present in a child who died of an acute disease four months after recovery without operation. Holt says the clinical course and the uniform pathologic findings have convinced him as well as his colleague (Downes) that a division of cases into spasmodic and hypertrophic types is not admissible. There are seen in early infancy a variety of gastric disturbances which may present some of the symptoms of hypertrophic stenosis, but careful observation shows that they are quite distinct from them. Cases of true hypertrophic stenosis differ much in degree. In a very few is the obstruction complete, but hypertrophy undoubtedly congenital, is the essential lesion in all, *the spasm being added as secondary condition*. Strauss and Abt divide these cases into two classes:

1. (a). Large tumors with almost complete compression of the mucous membrane and complete obstruction. (b). Small amount hypertrophy of muscularis, but with almost complete compression of the mucosa and complete obstruction.

2. (a). Large tumors with only partial obstruction and partial compression of the mucous membrane. (b). Small amount of hypertrophy of the muscularis and only partial obstruction.

They believe that many of the so-called pylorospasms which are treated medically with good results, but show recurrences of symptoms from time to time, belong to the class of hypertrophy with partial obstruction. Such cases have been recorded by Marie, Russell, and Landerer.⁶ This condition can hardly be considered an infrequent one since Holt has seen 121 cases from 1910 to 1917, and has seen 83 cases in the three years prior to 1917, the diagnosis in practically every case being confirmed either by necropsy or operation. The condition predominates in the male sex, 85 per cent of Holt's cases were males. Still⁴ reported 42 cases, 35 of which were males. Ibrilham⁴ found boys affected four times as often as girls.

SYMPTOMS AND DIAGNOSIS.

A very definite symptomatology is given in this condition, which should, in itself, serve to make a differential diagnosis between it and other gastric conditions associated with nausea and vomiting. There are only a few other conditions in the new-born babe, which might cloud the diagnosis, but if what Holt says is true, then there should not be much difficulty in arriving at a correct diagnosis. He

says,¹ "It is inconceivable that the hypertrophy such as has been found by operation to exist two or three weeks after birth could have developed as a result of spasm. Furthermore, I hold that persistent spasm of the pylorus without hypertrophy has not yet been established."*

Since age is a great factor in the occurrence time of hypertrophic pyloric stenosis, there should be no difficulty in arriving at a diagnosis, four-fifths of the cases being classical. Given an infant, usually breast-fed, who has nursed well, gained normally in weight, has had sufficient and well-digested stools, and in fact has shown few or no signs of digestive disturbances, who begins to vomit persistently and forcibly; these symptoms have their beginning most frequently in the third or fourth week of life, and in most instances their onset is abrupt and without assignable cause. To the forcible vomiting are added marked constipation, steady loss in weight, and all the symptoms belonging to a failing nutrition. Careful examination reveals definite gastric peristaltic waves, and in most cases a palpable tumor in the pyloric region. The vomiting does not at first attract the attention of the mother, but later on becomes so characteristic that a diagnosis can almost be made from that alone. It differs markedly from the usual vomiting seen in young babies, in that it occurs soon after nursing, often while the child is still at the breast. It is forcible and projectile, the food being fairly shot out of the mouth to a distance of some feet at times. There is practically no eructating or spitting of food in small quantities, but it comes out in large amounts, the entire contents of the stomach, usually repeated after each feeding. If the child retains one meal, it will generally following the next meal vomit both. There is no fever or pain, and in the early stages and for some time there is no impairment of the appetite. The vomiting becomes persistent and change of food relieves the condition for a short time, but it surely recurs with as great severity as before. The gastric peristaltic waves are a constant symptom and are mentioned as being of the greatest diagnostic value. In order to observe them, the child should be stripped during feeding or immediately after the stomach is filled; there will be seen in the upper abdomen peristaltic waves, passing from left to right across the median line, followed very frequently by immediate vomiting. Slight atypical waves may be seen in conditions other than hypertrophic stenosis, but they lack the deep regularly recurring waves of this condition. While pyloric tumor is present in 75 per cent. of the cases, according to Holt, it cannot be said to be essential to diagnosis. It will usually be found under favorable circumstances, and by careful observation, but men of much experience have been unable to find it, when one was demonstrated to be present, and others found it when it was demonstrated by necropsy or operation that none was present. At best the tumor is not larger than a good-sized peanut and can be felt when present, about 3 cm. to the right and a little above the umbilicus. It is best found by bimanual palpation, the palm of the left hand making pressure from behind, while the tumor is sought for with the tips of the fingers of the right hand. It may be obscured by an enlarged liver and by gaseous distention of the colon. Abnormal gastric retention is, according to Holt, fully as reliable as is the Roentgen ray and bismuth meal. This may be determined by giving the baby a test meal of two or three ounces of breast milk, or diluted condensed milk, and at the end of two or three hours, by means of a small suction apparatus the stomach is emptied. Simply passing a tube is not enough, considerable suction must be employed to empty the stomach.

The secondary symptoms, constipation, wasting and scanty urine, are simply the result of the constant vomiting. In the more severe cases the closure of the pylorus may be complete and the stools contain no fecal matter whatever. In most cases some food passes the pylorus. At times at necropsy, the pylorus admitted only a fine probe, yet the stools were of fair size and fecal in character. *Wasting is a constant symptom and its rapidity is the best guide to the seriousness of the case.* In marked cases the loss in weight may amount to two or three ounces

*Italics are mine.

a day. In cases with constant vomiting, the urinary secretion is very scanty and the association of these two symptoms may lead to a diagnosis of uremia. There is no fever and no pain and the appetite remains good, the child taking the breast immediately after vomiting. In milder cases, though peristalsis is marked, the vomiting may occur only two or three times a day and for days there may be none. The bowels move regularly with fecal stools and are about normal in amount; the weight may be stationary or may even show a slight gain. Gradually, in from six weeks to four or five months, the vomiting ceases, no more peristaltic waves are seen and the patient has apparently recovered, and even in these the tumor may be felt as late as the sixth month. Holt concludes that after one year relapses are infrequent. The use of the Roentgen ray with the bismuth meal will probably not give any more necessary information than will the retention test, besides valuable time may be lost in making these tests and the child die because of failure to get early surgical attention; even in the milder cases it is questionable whether the results are commensurate with the risks incurred. The principal difficulty in differential diagnosis would seem to be to distinguish between cases of indigestion with protracted vomiting, from hypertrophic stenosis. The diagnosis is to be made from the history, tumor, retention, and wasting. The fact that at times the vomiting may be forcible does not warrant a diagnosis of hypertrophic stenosis. There are a number of conditions, other than hypertrophic stenosis, in which pylorospasm is present. It is present in ulcer of the duodenum, in atresia of the oesophagus, in tuberculous peritonitis, and some small peritoneal fold may cause a kink in the duodenum, such a case having been recorded by Grulee and Kelly,⁵ and Downes⁶ has reported a case in which a small tumor projected into the pylorus and caused spasm. It is therefore evident, according to Holt, that there are quite a number of pathologic conditions in which gastric peristalsis and presumably pylorospasm, may be occasionally seen. To confuse these cases with hypertrophic stenosis, or to consider them as closely allied pathologic conditions, just because they have one or two symptoms in common does not, according to Holt, seem justifiable. Hypertrophic stenosis should be considered as a pathologic entity, though its symptoms vary greatly, according as the lesion is mild or severe. The writer believes that we are all too careless in our history taking, and its interpretation and that many of our mistakes could well be avoided by listening more patiently to the story of our patient's illness. Case records are not kept at all, or if kept are not sufficiently complete to be of any value. Too often the practitioner trusts to memory, and memory is a treacherous thing with a life at stake. There is not a physician within the sound of my voice but who is entirely capable of diagnosing this condition if he properly gets the history and then interprets it correctly.

MEDICAL TREATMENT.

The medical treatment of this condition consists in careful feeding and stomach washing. The gastric lavage should be practiced at first twice a day, and later at longer intervals; it serves the purpose of thoroughly cleansing the stomach, and the water should be used at a temperature of about 112 degrees. If it can be secured, breast milk is the preferable food, but one not rich in fat is desirable. The common practice of weaning as soon as symptoms develop is, according to Holt, most unwise. In default of breast milk, a modified milk low in fat should be employed. Cases respond differently to the quantities and intervals of feeding. Holt gives from one to three ounces at three or four hour intervals, or smaller quantities and shorter intervals, if it be breast milk. With the longer intervals, water should be given between feedings. In greatly prostrated patients, hypodermoclysis should be used daily, 150 to 250 c.c. of a 4 per cent solution. Rectal feeding is not considered of any value.

Sauer⁷ uses thick farina in feeding these cases, and reports twelve cases in which thick cereal feeding caused a very rapid subsidence of the vomiting in all but one. With the passage of the food beyond the pylorus, in practically all these

cases there was a rapid improvement in the nutritional condition of the child. After thick cereal feeding had been persisted in for some time, it was found that liquid food passed beyond the pylorus. It thus seems to be well proved that by means of thick cereal the constriction of the pylorus is gradually loosened, so that food will pass through the pylorus almost normally. Sauer states that the cereal feeding in its thickened state will be held in the stomach and passed into the duodenum, but will be regurgitated when thinned with boiled water. He concludes that thick cereal cannot be ejected from the stomach by the sudden explosive contraction that produces vomiting of milk feedings, and that thick cereal is moved along by the slow peristaltic contractions of the gastric wall.

SURGICAL TREATMENT.

The earlier operations for this condition were jejunostomy, gastroenterostomy and pyloroplasty, but the mortality was so great from these, and in face of the fact that high medical authority was advising medical treatment, surgery did not gain much headway in this condition until after 1913, when Rammstedt reported a case in which he simply divided the circular muscular layer of the pylorus by external incision, and the case made an excellent recovery. The Rammstedt operation is the only operation done at the Babies Hospital, New York, for the past four years. Previous to that time the operation done was gastroenterostomy. Up to 1917, 67 cases had been operated in that institution by this method (Rammstedt) with a mortality of 24 per cent, while the mortality from gastroenterostomy was 51 per cent. These cases all occurred in the same institution and all were operated by the same men, where the general run of cases is much the same and where the after treatment was identical, hence, is of more conclusive value than if it was a report from different hospitals and different operators. The advantages of the Rammstedt operation are self-evident from these figures, since the mortality rate is 50 per cent less than is the rate from gastroenterostomy. The most important advantage is the time required to do this operation as compared with gastroenterostomy. It can be done in from ten to fifteen minutes, while the other requires at least 45 minutes to one hour, and then the operator must be more skillful than the average man who is doing surgery. In the Rammstedt operation, the stomach is not opened and the risks from nonunion, leakage and peritonitis are eliminated. There is no hemorrhage to speak of and no suturing is required and the shock must of necessity be very much less, as is the temperature reaction, food can be pushed more rapidly, and the disturbances of digestion, particularly diarrhea, which is usually troublesome after gastroenterostomy, are much less frequent and severe. There is no question but what the Rammstedt operation requires more refinement in technic than does a gastroenterostomy.

Wounding of the mucosa has occurred, but has not caused death in every instance, but the chances from leakage followed by peritonitis from this accident are very great and have caused death. Incomplete division of the muscularis is to be avoided and if a second operation is necessary, death occurs usually. As between the Rammstedt operation and gastroenterostomy, there appears to me to be no choice, even though it requires more refinement in technic. This question comes to me; should a man who is not competent to do the proven best operation, attempt to do surgery? Recently a surgeon said to the writer that he did a gastroenterostomy for this condition because he found it easier to do, and this in face of the fact that the mass of evidence shows that the Rammstedt operation is the better one. No man who claims to be a surgeon should admit that he is not competent to do an operation generally accepted as the best one. The fact that a human life is at stake seems to cut no figure with this type of surgeon, especially since it is only a baby, but some of our babies have become presidents in the past, and others will in the future. The cause of death from this operation was in nearly all cases due to shock, but all of them were in extremely bad condition at the time of operation, the symptoms in none of them having lasted less than four and a half weeks. The mortality in cases brought to operation early has been shown to be only fifteen

per cent from the Rammstedt as against 51 per cent from gastroenterostomy, and this in the hands of operators of great experience. What must the mortality be with men of less operative ability? Does any surgeon think he is doing his patient justice in refusing to give him this proven advantage?

AFTER-TREATMENT.

According to the routine carried out at the Babies Hospital, under the direction of Drs. Holt and Downes, the infant is wrapped in a warm blanket before leaving the operating room, and when in bed is surrounded by hot water bottles outside the blanket. For an hour or two the head of the bed is kept lowered to prevent the aspiration of mucous into the larynx. When nourishment is commenced, the head of the bed is raised to a level position. Ten or twelve hours later the patient is placed in a semi-erect position, which tends to prevent regurgitation of food and permits the more easy escape of gas. As soon as the patient has been placed in bed, a hypodermoclysis of 120 cc. of salt solution (physiologic) is given, and if the condition is poor, a hypodermic of five minims of adrenalin, 1-1000 is given and repeated in from four to five hours. Transfusion in a few cases of collapse has been of benefit.

One and one half hours after the operation, provided the patient has sufficiently recovered from the anesthetic, 10 cc. of water are given, and one and a half hours later four cc. of barley water and four cc. of milk are given. Breast milk is given every three hours, alternated with water, and gradually the amount is increased, so that at the end of 48 hours about 30 cc. are given at a feeding, with four cc. of barley water. The barley water is then discontinued and the milk gradually increased, so that by the end of the eighth day the patient is having 60 cc. every three hours. The baby is weighed before nursing and at intervals of three minutes until he has nursed 60 cc. from the breast. By the eleventh or twelfth day the patient is nursing entirely and is able to leave the hospital. If the mother is not able to nurse the baby, a wet nurse is employed. In well-nourished children the sponge bath may be given daily, but in emaciated ones an oil rub is preferable. In cases of vomiting due to the accumulation of gas in the stomach the child should be raised to an upright position after feeding, and if this does not suffice, a soft rubber catheter may be passed into the stomach before feeding; if this does not relieve the condition, gastric lavage may be resorted to. If the bowels have not moved within 24 hours after operation, give one teaspoonful of castor oil; there should be from two to three stools every day.

MORTALITY.

A low mortality in these cases of pyloric stenosis depends on an early diagnosis, and not too prolonged an attempt to cure them by medical means, but to resort to surgical intervention when the case shows no prompt improvement. The longer operation is delayed, in a case with well marked tumor, the greater the surgical risk and the less chance for the child to recover. From the observations of Strauss and Abt, the size of the tumor is no reliable index to the amount of the stenosis, and a small tumor may cause just as much obstruction as a large one. Operation by the Rammstedt method will insure a mortality of not much more than five per cent. in cases that have not vomited more than two weeks. Sudden and unexpected death in palliatively treated cases is not uncommon, probably due to acidosis caused by defective urinary secretion.

CONCLUSIONS.

1. Hypertrophic stenosis in infancy is a pathologic entity and should not be counfounded with other pathologic conditions which may be accompanied by some similar symptoms.
2. In the milder forms the patients often recover with only medical treatment.

3. All those who do not improve markedly within one or two weeks should be considered as surgical cases and treated by operation.

4. The symptoms which indicate surgical interference are rapid loss of weight, persistent and forcible vomiting, active gastric peristalsis, and especially if tumor be present.

5. The sooner the patient comes to operation the more surely will the result be successful.

6. That the Rammstedt operation seems now to be the operation of choice and should be done in all cases coming to operation. This conclusion would seem to be warranted from the results at the Babies Hospital, where the same operation, same operators and the same after-treatment, has given such brilliant results.

7. The after-treatment of these cases is of very great importance, as it is following any major operative procedure and that many good operators are faulty in their after-care of their patients.

8. Patients not operated on usually show no symptoms after the first year, but there is a possibility that this apparent cure may be the basis of pyloric obstruction which is found in later life.

REFERENCES.

I have quoted very freely from the classical paper of Holt designated as No. 1.

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MALARIA IN THE BALKANS.

Americans in the Balkans have changed their opinions of the Turk character. They do not blame him now because he appears to be lazy, inefficient and despondent. Wherever he is to be found in Macedonia, Albania, Montenegro, Bosnia, and Herzegovina, his characteristics are the same as those of his Christian neighbors, with whom he lives in greater peace than do the constantly bickering Christian tribes and nascent nations among themselves.

Dr. Regina Flood Keyes, of Buffalo, New York, an American Red Cross physician who has lived in the Balkans for several years and who has been decorated by the French, Greek and Serbian Governments for operations performed under heavy bombardment, attributed the backwardness of the Balkan peoples to two causes, sand-fly fever and malaria.

"The Red Cross fight against typhus, small-pox, cholera and sex diseases in the Balkans attracts much attention in the press," says Dr. Keyes, "but our real work out here is the struggle to down malaria. More British soldiers died or were incapacitated by malaria in the Struma valley during the war than were killed in the taking of the Grande Couronne."

"The whole littoral of the eastern Adriatic from Fiume down to Avion is a hot bed of malaria and sand-fly fever while the northern shore of the Aegean from Salonica to Constantinople is even worse America, if she is going to play her role in the world, must do for the Balkans what she did in the Panama zone. These peoples must be taught drainage, how to kill the mosquito and to maintain domestic sanitation. It is a work of years but we have made a good start in the last thirty months. Malaria causes the all too obvious despondency of the Balkan peoples. To enable them to rise we must kill the mosquito."

EXOPHTHALMIC GOITER.*

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In selecting this subject, I realize something of the scope of clinical manifestation and will omit from consideration those conditions where the structure of the gland has undergone permanent change, as in advanced colloid goiter, malignant tumors, etc.

The treatment of goiter dates back as far as the history of the disease. It is one of the diseases to which the most fantastic remedies of the Middle Ages were applied. There are few diseases for which more varied remedies have been advocated, ranging from the touch of a dead man's hand to the removal of a part or all the gland. Many volumes have been written on this disease and its treatment.

I will not attempt to discuss the literature on the subject, but will start my few remarks from the experiments of E. C. Rosenow when he grew a pus organism from the thyroid of a patient suffering with thyrotoxicosis. As pointed out by Rosenow, this would suggest an inflammation of the thyroid from bacteria carried to it through the blood stream. The removal of chronic pus foci in these patients has proven the correctness of this suggestion and has made many of us revise our ideas on the etiology and treatment of this condition, and we feel that we are on a more rational basis. Truly our results are far more satisfactory. It makes little difference where the pus focus or foci are carried, they must be removed completely if cure is to be expected. Like many other diseases, due to blood-carried infections, we find the tonsils and teeth the most common offending organs, as it is here that the most favorable locations are for a chronic foci.

Since 1916 we have treated, at the Chickasha Hospital, twenty-six cases of thyrotoxicosis, that is, where this condition was the predominating cause of ill health. In but one of these cases did we do surgery on the thyroid gland, and in this case we later discovered a dental pus focus which we had overlooked. All of these cases were treated by removing diseased tonsils and in some also diseased teeth. The result in all these cases has been a cure of the thyrotoxicosis. The improvement has been more rapid and thorough than when we removed part of the thyroid gland.

In 1916 The Central Oklahoma Medical Society met at Chickasha and we presented in clinic at the Chickasha Hospital a case of thyrotoxicosis and at that time removed the tonsils and teeth. This patient made a speedy and lasting recovery and is today a robust, vigorous woman. I mention this case in particular as some are present at this meeting who saw the patient and wished to know the results.

There are times when the thyroid is physiologically more active than others, as at puberty, menstrual periods, pregnancy, etc. When at these times, if there is any noticeable increase in the size of the gland, one should look after the tonsils and teeth and, if diseased, should remove them, as a prophylactic measure, to prevent infection of these active glands.

DISCUSSION.

Dr. Ross Grosshart, Tulsa: I think the Doctor read a paper on this subject seven or eight years ago which I championed and we both were ridiculed.

Again there is nothing that has swept the country and has done more good for humanity than what the dentists have done for focal infection of the mouth, as well as a few physicians who recognized focal infection as being the cause of a great many reflex conditions that we had in the past attributed to other causes.

I read a little paper on this subject before our County Society a few weeks ago along this same line and made the remark in this paper that when you said goiter you said infection, and that this infection was most generally a streptococci and the most prevalent points of infection, or foci, were in the tonsils and teeth. This

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condition may not show any local evidence of pain or swelling which would draw the attention of the diagnostician to these parts, but the x-ray and close observation will generally find the foci and when removed, the hyperthyroidism will disappear and the gland will return to a normal condition insofar as it has not been transferred to scar tissue, or to colloid degeneration.

While it is a little off the subject of the paper, I will make a further remark that arterial sclerosis is due to a focal infection and not a condition of senility, and when we learn to locate and find the infection and remove it, we will cure our cases of arterial sclerosis and man's longevity will be increased many fold and his general metabolism improved and will probably be made to live as old as Methusaleh.

This subject as yet is in its infancy, while at the present time we have a great many good men who have recognized this as being the downfall of the human metabolism and are looking upon all cases of neurasthenia, arterial sclerosis, rheumatism, sleeplessness, nerve exhaustion, and a great many other conditions as having their origin in some foci of infection.

It will probably be a little far fetched at this period to make the declaration that I am about to make, and in which I am a firm believer, that when we become more proficient in diagnosis of focal infection, and the public realizes the many ailments and conditions that result therefrom, and that treatment should be instigated early, man's longevity will be increased many fold. As I have said heretofore, a man is no older than his arteries, and what we have been terminating arterial sclerosis, if my statement is right, when we eliminate focal infections, the causes of arterial sclerosis, the causes of the disturbances of the internal secretions, man's pain and senility will be practically eliminated, but there is many a step and a great deal of future research to bring about these results. When we have obtained the active principles of the internal secretions of the different glands and can reproduce them in the chemical laboratory, or extract them from the animal, it will be possible, after having eliminated the foci of the infection, to administer the proper dosage of the active principle of the internal secretion that it is sufficient to bring about, or support the normal physical condition of our bodies to perpetuate life to any age, far beyond that of three score years and ten. We will also be able to take a new born infant and produce the size, habits and mentality to a uniform standard which may be set as being a perfect man or woman by the administration of the internal secretions, or the control of internal secretions, which are closely allied to each other, i.e., ovarian and thyroid.

So let me impress upon you that the physician and surgeon of today is not what he will be in the future. My advice is to make careful diagnosis and acute observation with the one idea in view that focal infection is the downfall and cause of the suffering of the human anatomy, and it is his duty when consulted to use all the known means at his disposal to locate the foci and remove it, or have it removed at the earliest possible moment, and he will have accomplished for his patient the enjoyment of good health and a reputation for himself and his profession, and will redeem the wonderful science back to that pinnacle that it rightly deserves, and the elimination of the osteopath, chiropractor, and Christian Scientist.

Dr. Livermore, closing: It has only been about four years since I made a statement before this meeting—Doctor Grosshart will remember it, I think—that if we would go after the focus in the tonsils we would go a long way toward obviating the necessity of surgery in these conditions and prevent the death of the patient. At that meeting—it was not like this—I could hardly get to my seat. I see Doctor Blesh has left the room. I think it was Doctor Blesh who jumped to the floor and said that anybody who said the tonsil had anything to do with a goitre was crazy. I hope he has changed his mind on that proposition, because today we are standing on a proposition where it is not alone Livermore's say, but there are some ten or fifteen men in the United States who have made the experiment and have gotten satisfactory results.

ACUTE INFECTIONS OF THE UPPER RESPIRATORY TRACT.*

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The recent epidemic of so-called Spanish influenza has brought before us the fact that we have as yet much to learn regarding the cause of infections and the methods of their transmission.

Some of our previous theories have been substantiated while others are being severely shocked. Our recent army experience has substantiated the previous knowledge that the acute infections are directly transmittable from one individual to another; that they follow the more frequented routes of travel; that they are more frequent in congested districts and they are worse during dry windy weather. It has been very noticeable in the army camps that the respiratory infections were markedly increased during dry weather. In order to prevent a spread of the infection by wind and dust, drill grounds were located a considerable distance from the barracks, floors and roads were oiled and grass allowed to grow in unused vacant areas.

The recent epidemic started at an Atlantic seaport and spread tree-like first along the more frequented routes, gradually branching until the most remote sections were invaded. This sequence of development goes to prove that the disease is either directly or indirectly carried by individuals and not the result of atmospheric or climatic conditions.

The old theory of taking cold from being in a draught has been repeatedly exploded. Unless the air which blows upon the individual contains infectious organisms which may become lodged in the upper respiratory passages, there will be no ill effect from it—not so much as a swollen mucous membrane. Of course, the temperature of a draught may be so low that if allowed to strike an exposed part of the body it will cause a lowered resistance of the part by reducing the blood flow to it. This lowered resistance, or anemia, will favor the development of infectious organisms if present. It is in this manner that our so-called colds are caused by exposure.

In order that effective prophylactic measures may be instituted, we should first know the causative agent, and more important still, we must know the method of its transmission. By knowing the causative agent we have a basis upon which immunizing serums and anti-toxins may be founded. We also become more or less familiar with its morphology and predilections, and by this knowledge we may institute certain measures that will lessen the susceptibility to infection and prevent certain complications and sequelae after the tissues have been invaded.

Serums and vaccines are of but little value for diseases which in themselves do not confer immunity. I do not wish to be understood as condemning this form of prophylaxis as of no value. I do believe that considerable good may be derived from it, especially during an epidemic of short duration. We may get a complete immunity entirely preventing the disease or only a partial immunity that will temper its course and severity. It is not rational to believe that this immunity so conferred can be more lasting than that conferred by the disease itself. We do know that most of the respiratory diseases do not confer immunity for any considerable time, but on the contrary rather predispose to subsequent attacks. Whether this predisposition to subsequent attacks is due to some local pathological change favoring the entrance of the special organism or to a more general disturbance, I am not prepared to discuss.

It is, however, through our knowledge of the methods of transmission that we are able to do the most good for the greatest number by way of prevention.

The respiratory diseases are mainly transmitted by air conduction, although some individuals may become infected, as Forchheimer has so aptly stated, "by

*Read in Section on Eye, Ear, Nose and Throat, Annual Meeting, Muskogee, May, 1919.

food, fingers and flies." Under food we include water and foreign substances that enter the mouth; by fingers we refer to all unsanitary conditions; by flies we mean any transmission other than by human agencies. I refer to the air as a medium through which particles containing the organisms are transmitted from one individual to another. This transmission is either direct or indirect; direct in that the secretions from the nose and throat containing the micro-organisms are transmitted by sneezing and coughing. The distance through which we may become infected in this manner is limited under ordinary circumstances to four feet. Indirect transmission in the sense that these secretions are carried by wind and dust after having been deposited on the ground.

It is not necessary for the individual to have the disease in order to be a carrier of its contagion. These individuals, known as carrier-contacts, continue to go about their business and spread the contagion. They are indeed a fruitful source of infection and doubly dangerous from the fact that they are unknown.

Carrier-contacts are determined by nasal and throat cultures taken every 48 to 72 hours, i.e., if the first culture is found positive another should be taken in 48 hours and the patient considered a carrier until two negative cultures have been obtained. All sprays and swabs should be discontinued 24 hours before the culture is taken. Nasal cultures are found less often positive than throat cultures properly taken. When I say properly taken, I mean that the culture must be taken from the tonsillar crypts either by expression or better by introducing a loop into them. Many cases will be found positive by this method after repeated negative cultures made from pharyngeal swabs hurriedly used. In cases where nasal smears are positive, you can almost invariably demonstrate to your own satisfaction the presence of sinus infection. In the absence of sinus involvement and in those cases giving negative cultures from the tonsils, I have only been able to obtain positive cultures for a few days. As a rule the second culture will be negative. Very few positive throat cultures are found in those who have had previous tonsillectomies.

I offer this as evidence of the necessity for the organisms to find some place of retention other than an exposed mucous surface for their propagation. I doubt if they will penetrate a healthy unbroken mucous surface. They are occasionally found in the gums about a decayed tooth or in some ulceration but never for a long period on free exposed surfaces.

Let us consider for example the streptococcus hemolyticus which played so important a part in our recent epidemic. Over one hundred strains of this organism have been studied and in practically every instance the same strain has been found running throughout the same case; e. g., in a case of pleurisy, pneumonia, or localized abscess, the culture showed the same strain of the streptococcus hemolyticus as was found in the throat. This is almost positive evidence of one or two things, either that the two foci of infection had a common origin or that the infection was carried from one focus to the other. Some of these cases that showed an early development of pulmonary lesions may have had a direct infection into the lungs, although we are not positive of such direct invasion unless we have had negative cultures from the nose and throat. We do know that the great majority of these cases have shown positive throat cultures several days before any pulmonary condition was demonstrable. Following this knowledge and experience we are brought to the conclusion that many of these cases of pulmonary invasion were secondary infections from the foci of the upper air passages. If this is a true conclusion, then many of such cases may have been prevented by the early detection of the organisms in the nasal and pharyngeal cavities.

If these diseases are transmitted in the above mentioned way, as I believe they are, then many measures may be instituted that will materially reduce the number of cases. In order to prevent the direct transmission from one individual to another, no assemblies should be permitted during an epidemic. All individuals should sleep with their heads at least four feet apart. Contacts should be determined by culture—especially of all school children. All cases of sore throat or

elevation of temperature should be isolated until a diagnosis can be made from culture. They should remain in isolation until two negative cultures have been found.

As a general preventative measure, I have used with splendid results an oil spray of dichloramine-T. Strong solutions of silver nitrate were found to be the only effective remedy for the throat infections. Some cases showed positive cultures from the tonsillar crypts in spite of all treatment until the tonsils were removed, when they would clear up immediately.

I am fully convinced that the recent epidemic was prolonged by chronic carriers and that the secondary outbreaks which have occurred in many localities may be attributed to those individuals who are carrying the ever-dangerous organisms.

I suppose some will say that we have found another excuse for the removal of tonsils when we tell them that they are a constant danger to others as well as themselves.

Many of our rhinologists and laryngologists have neglected to impress upon the general practitioner, as well as the laity, the importance of prophylaxis in nasal and pharyngeal infections. Let us not hide behind a false modesty, but be ever ready to give to our fellow physician whatever knowledge we may have gained as specialists.

THE NURSE QUESTION.

J. D. Robertson, Health Commissioner, Chicago (*Journal A. M. A.*, Feb. 14, 1920), gives an account of his school for home and public nursing, conducted by his department in Chicago. Every physician knows, he says, the difficulty of securing competent nursing care for people in moderate circumstances. The school mentioned was established in August, 1919, anticipating the outbreak of influenza and grip of 1920 by a number of days. The available supply of regular nurses was early exhausted, and for a period of days the calls on the health department were at the rate of fifty per hour. There is no question about the value of the registered nurse, but the trouble is that only those in very comfortable circumstances can afford to employ them; hence the foundation of the school, with the object of both teaching and helping. The course given covers two months, the pupils spending in class, two hours a day for three days a week. Seven hundred and ninety were graduated in the first class, and 1,363 in the second. Then the coal strike occurred and the size of the class had to be limited to 1,000, the present number. A table of data concerning the first two classes is given, showing a large proportion of American born women and of married women. At no time since the graduation of the first class have they been able to meet the call for the services of these women, but no dissatisfaction with their work has been expressed to Robertson. There was opposition at the beginning, but this has mostly subsided, and it has never been sufficient to affect the work. They make no claim that their training is equal to that of registered nurses, but they do claim that their graduates can satisfactorily fill the need for the general run of cases, where all that is called for is the conscientious following of the doctor's directions. In a critical surgical case, he would prefer one with special training, but for ordinary cases they are quite as capable and often more desirable because they are willing to do housekeeping as well as nursing, and in its final analysis, nursing is simply housekeeping for the sick. At a meeting of the staff of the department of health the curriculum of the standard nursing course with a view to determining what was absolutely essential was discussed. The curriculum adopted, both as lectures and demonstrations, is given, special emphasis being laid on the taking of temperature, pulse and respiration. Many of the students learn quickly, others are slower, and the hardest two weeks, as far as the instructors are concerned, are the two weeks drilling on this course. Throughout the course, two main propositions are insisted on—absolute adherence to the physician's orders and strict cleanliness. To give some idea as to the latter, it was arranged that each woman should be given a chance to see at least one surgical operation in a hospital amphitheater. In giving medicines, the physician's orders were especially emphasized, and also instructions against any assumption of the physician's duties by the nurse. Most of the women trained have no intention of nursing outside their own families, that is ordinarily. While the output, so far, looks insignificant as compared with the needs of a population of two and a half million, a start has been made and this is the most important. There is no intention to run in opposition to the skilled trained nurse—the idea is to train a body of housekeepers for the sick. Robertson says they are training soldiers to serve under the leadership of physicians in the fight against disease—they are not training subofficers. He would be glad to see a similar movement in every health department in the land, and would give his aid to the extent of his resources to every one who desires it.

PRIMARY GLAUCOMA.***Report of Case—Recovery Without Operation.**

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There has been so much written on glaucoma, that I shall not attempt to enlarge upon the literature, but shall be content to report a case that might be of interest, or rather the treatment as outlined may be of some benefit to you, to know. Nothing new in the treatment itself, but the manner in which the treatment was carried out.

Patient, male, 68 years old, consulted a very competent oculist, of Chicago, who advised him to go into the hospital at once, and have an operation to relieve the tension. While arranging some preliminaries, which took about a week, the man was directed to see Dr. W. A. Fisher, who sent him to the Chicago Eye, Ear, Nose and Throat Hospital. I saw the case through the courtesy of and with Dr. Fisher. The patient's vision was 20-200, tension 76.

Treatment: Pilocarpin, two grains to the ounce of distilled water, was instilled into the the eyes every two hours, night and day, for twenty-four hours. Vision was improved to 20-40 and tension reduced to 46. This treatment was continued for 48 hours longer, when vision improved to 20-25 and tension 26 or normal. The treatment was then changed to the following: Pilocarpin, two grains to the ounce distilled water, every three hours during the day and two drops of a solution of eserine, one grain to the ounce of distilled water, at bedtime. He is now able to read a paper, and his pupils are normal.

The point of interest in this case was the prompt response to the treatment, which was systematically given.

My object in reporting this case is that the majority of authors writing on this subject insist upon operation as soon as the case can be gotten to a hospital, no attention being given to medical treatment.

My contention is, that every case of plus tension that comes to our observation, no matter from what cause, should receive medical treatment before surgical intervention. The general cause of glaucoma is not known. We know we have increased intra-ocular pressure, but whether this is due to an increase of secretion, within the eye-ball, or to a lack of excretion, is not definitely known; in either instance, to reduce the tension is the prime object, and if this can be maintained, the eye will get well. It is thought that the dilatation of the pupil interferes with drainage through the canal of Schlemm, for it seems that the contraction of the pupil relieves the condition, so it is in this way that the miotics help and often cure permanently; but to maintain a cure, this treatment must be continued as long as there is any danger of a recurrence.

You might ask: how long to continue treatment, if no improvement is noticeable? To this I would answer, forty-eight hours; the first twenty-four hours I would use pilocarpin, two grains to the ounce of distilled water, instilled into the eye every two hours, night and day; if no improvement is noticeable, I would then change and use one per cent eserine for the same period, and in the same way. Then if there be no marked improvement after the use of the latter remedy for twenty-four hours, I would resort to surgical treatment, either to iridectomy or trephining.

I am not prejudiced against operation when necessary, but you lose nothing, and you are acting on the safe side when you use medical treatment first, where you have plus tension, with a cause; like following some injury use atropin, and if you have plus tension without a cause, where there has been no injury, or other known cause, then use eserine, or pilocarpin before any operative procedure, and if you get good results, continue the treatment, and you will not have to subject your patients to any unnecessary operation, which is not always free from complications.

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SURGERY OF THE TONSIL.*

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Probably no surgery is more generally done today than the surgery of the tonsil, and I think we are justified in stating that no results of surgery manifest greater inefficiency in technique. Tonsillectomy has for long been regarded as a minor operation, and freely undertaken by general surgeons and medical men of all grades and distinction. I shall not raise the question as to whether tonsil surgery belongs distinctly to the laryngologist, but I do maintain that tonsillectomy is a major operation, and should be attempted only by those who are thoroughly familiar with some technique that will remove the tonsil thoroughly and efficiently with as little damage as possible to the surrounding tissues within the throat.

That so much has been written upon the surgery of the tonsil, and so many instruments devised for the performance of this work is prima facie evidence that tonsillectomy is attended with difficulties, if not with unsatisfactory results, and each one is attempting to devise a technique or produce some instrument that will render the operation less difficult and the results less damaging to structure within the throat. In view of the fact that this work is so generally done, the writer is disposed to offer no apologies for again presenting this subject for consideration. The last word has not yet been spoken, I believe, upon the subject of tonsil surgery, when viewed in the light of post-operative results.

For years our best laryngologists have observed contractions, adhesions and scar tissue in throats following tonsillectomies where the greatest care had been exercised in their technique, and when everything proceeded at the time of the operations to their utmost satisfaction. The writer has heard many laryngologists state that it is utterly impossible to do tonsil surgery and not occasionally get contractions, adhesions and scar tissue within the faucal structures. Up until a year or more ago, from the end results in my own work, and from observations of the work of other men, such occasional results I deemed unavoidable. Upon a more careful consideration of these apparently inevitable results, these questions presented themselves to me:

First: Why is it that these contractions and adhesions often occurred in the simplest tonsils which presented themselves for operation, and not always in the more difficult cases when it might be possible that our technique was faulty?

Second: If nine cases could be operated and afterwards present perfect throats free from contractions and adhesions, why should not the tenth case be operated with the same results?

As a result of these questions which led to a more careful study of the histological and gross anatomy of the tonsil and its adenexia, the writer has been able to demonstrate clinically, that contractions and adhesions are due, in the main, to two causes:

First: A destruction of the whole or a part of the tonsillar plicae, the wounding of these plicae or the tearing of them from their attachments so that they no longer functionate.

Second: A destruction or wounding of the aponeuroses of the various muscles which form the tonsillar fossa, or injury of the muscles themselves.

The plicae are folds of mucous membrane which extend beyond the pillars of the fauces, with which they are continuous, covering a portion of the internal surface of the tonsil. The posterior plica, which is attached to the posterior pillar

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of the fauces, and is continuous below with the mucous membrane of the internal pharyngeal wall, is constant in less than 60 per cent of cases. It may extend from one-eighth to one-fourth of an inch beyond the posterior pillar over the internal tonsillar surface.

The anterior plica is constant. It begins at the upper portion of the posterior pillar of the fauces—follows along the supra-tonsillar arch of the soft palate, where it forms what is called the triangular plica, is contiguous with the margin of the anterior pillar, and becomes continuous below, in a broad base, with the mucous membrane of the external pharyngeal wall. This plica is one-fourth of an inch or more in width above, and gradually widens as it descends, until, at its attachment to the pharyngeal wall, it is often over one-half of an inch in width. It must be borne in mind, that the basement membrane of the mucous membrane which forms these plicae, extends to become the capsule of the tonsil; the tonsil developing in the mucous membrane and not under it.

The muscles, the aponeuroses of which form the tonsillar fossa, are the superior constrictor of the pharynx, the palato glossus, within the anterior pillar of the fauces, and the palato pharyngeus, within the posterior pillar of the fauces. These aponeuroses, if not torn or cut, coalesce so as to form a smooth, clean and unbroken fossa.

Following tonsillar inflammation, the plicae nearly always become more or less adherent to the surface of the tonsil. If they are quite firmly attached, it may take a little care and patience to dissect them free. Many may claim that they have given care to the preservation of these plicae for years. This, however, is not the important consideration in connection with these plicae in our efforts to prevent the contractions and adhesions following tonsillectomy. To avoid these sequellae, the plicae must be preserved intact, not lacerated and torn, and the anterior plicae must not be separated from its extensive attachment to the external pharyngeal wall. If this care is not taken, these plicae, in a large per cent of the cases, will become infected and slough, or they will roll up and be of no value in the healing process. If the plicae are uninjured, they will not slough, but will fall over the inner margins of the pillars of the fauces covering a portion of the fossa left by the removal of the tonsil. This, however, is not the most important result; epithelial buds for the development of new epithelial cells are rapidly given off from the margins of these plicae lying in the tonsillar fossa, which readily cover the entire surface of the fossa with a new epithelial layer.

Why we should avoid wounding the aponeuroses of the muscles which form the tonsillar fossa if we would avoid contractions is, I think, self evident.

With regard to the technique for operating the tonsil with these points in mind, I would state, that no tonsillectome or mechanical device for removing the tonsil—no matter how skillful the operator—can be used, unless the plicae are previously dissected, without destroying, in most cases, the whole of the anterior plica. I have had the opportunity for making observations upon this point. Aside from this, I would state that each clinician should adopt the technique with which he can best obtain the above results.

From my own observation and experience, I find it absolutely impossible to dissect a markedly adherent plica from the tonsil, without tearing or lacerating it so that it becomes of little or no value, by using a blunt dissector of any kind—I, therefore, always use in my plicae dissections a keen, sharp-pointed knife. With this, I not only dissect the plicae from the tonsil, but I also cut the attachment of the plicae from the tonsil capsule. The capsule of the tonsil may then be separated from the tonsillar fossa by any instrument with which you are least likely to wound the aponeuroses of the muscles which form this fossa, always having care not to wound the loose folds of your plicae while you are making this later dissection. The tonsil scissors, or better, Dr. Norvall Pierce's sharp spoon dissector, I find especially serviceable in this work. The base of the tonsil I usually remove from its attachment by means of the snare.

THE EAR IN THE RECENT INFLUENZA EPIDEMIC.*

L. C. KUYRKENDALL, M. D.

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During the recent epidemic of influenza my attention was frequently called to the ear complications of this disease. I had repeatedly come in contact with patients suffering from lagrippe or influenza, but not as frequently as in the epidemic just passed.

The complications encountered were numerous and varied. The most frequent of which was otitis media, most often non-suppurative but in quite a few instances suppurative. Eustachian tube involvement was present in quite a few cases and in two cases where the mastoid was involved I had to operate. I give it to you for what it is worth, but in one week I had four cases of *Aspergillus* infection, three of these patients had just recovered from the flu, the other had not had flu at all. In Chicago, otitis media occurred as a complication, but nothing like in proportion as of 1890. (Strouse).¹

The question of mode of entrance and causative factor in influenza has not as yet been definitely decided or agreed upon and very few of the writers have even ventured an opinion.

The infection might gain entrance through the nose and throat as Wollstein and Goldbloom² found that during life the sputum contained *B. influenzae* in 13 to 17 cases in which it was searched for. Hamburger³ says it is a disease that involves the entire body, involving the head and head sinuses, brain and meninges rather regularly. His early cases showed rather strictly the influenza bacillus. In the second and third weeks the Pfeiffer bacillus in the sputum was taken over by the pneumococcus. Howard,⁴ of Baltimore, made cultures from naso-pharynx, sputum and blood, finding in addition to *B. influenza*, green streptococci, pneumococci, and staphylococci. He does not feel that any of the organisms isolated are the cause of epidemic influenza.

That influenza seems to be a mixed infection in the widest sense of the term is the theory of Sahli,⁵ he claiming that droplet infections do not occur with a single bacterium but always with a number of bacteria, which are often of a mixed species. These bacteria may form a complex virus and mixed cultures are liable to separate and turn into a single culture. The pneumococcus, the streptococcus, the influenza bacillus, and possibly still others form an obligate group, in this way explaining influenza to be an obligate complex infection. In one of his cases the sputum was swarming with influenza bacilli one day, and the next day the sputum was a thick culture of the pneumococcus, thus in twenty-four hours the complex virus had become completely transformed in the course of the single infection.

The onset of the disease is sudden, with acute fever, but usually without a definite chill. The incubation period is usually about twenty-four hours. There is a cough and very definite symptoms of pharyngitis. The throat may show only an involvement of the anterior pillars, usually though the entire throat is intensely red.

Pritchett and Stillman⁶ cultivated *B. influenza* from the mouths and sputa of 93 per cent of cases of influenza and broncho-pneumonia. It was present in the mouths of 43 per cent of normal individuals.

I find practically all cases who had a chronic non-suppurative otitis media characterized only by slight deafness developed an obstinate case with pronounced deafness after having had influenza. I did not notice that these people were any more susceptible to suppurative otitis than those who had previously had no trouble with their ears, but I found those of the first class more obstinate in healing and the hearing more often impaired after healing.

The theory of infection by way of the nose and throat was given credence in

that all over this country as well as abroad nasal sprays, throat gargles and masks were recommended not only by health authorities but by the physicians as well. In some places the wearing of a mask was compulsory. In this connection I am reminded of an article I saw in "Tonics and Sedatives," *Journal A. M. A.* It is said that during the flu epidemic in San Francisco when all public meeting places were closed, and the entire population was compelled to wear masks to prevent the spread of the disease, a drunken man was overheard muttering, "Well, I am an old man, but I have lived my time and am ready to quit. I have lived to see four great things come to pass—the end of the war, the churches closed, saloons left open, and the women muzzled." As to the virtue of the mask, I am unable to state, but I see no reason why it should not be valuable as a prophylactic measure, providing the nasal spray and throat gargle are used at the same time.

The majority of cases of which I have knowledge complained very early in the disease of being hard of hearing. Stengel⁷ refers to the disturbance of hearing as having occurred in a small number of cases, but seems to think it was less frequent in the epidemic just passed than has occurred in the epidemics of pseudo-influenza. It was about as common in the epidemic of 1889-90, as in the recent epidemic. A gram-negative bacillus which answered very closely the original description of Pfeiffer was obtained from the sputum of a considerable proportion of the cases studied. In some laboratories it was found in as many as 80 per cent of all cases studied. They found in addition to the Pfeiffer bacillus, streptococci, pneumococci, Friedlander's bacillus, and occasionally various other organisms.

Alfred Friedlander et alia⁸ stated that later in the disease acute catarrhal otitis media was common, but fortunately always cleared up without perforation of the drum. That was not the case with me, as fully 20 per cent of the cases coming under my observation, either ruptured the drum or a paracentesis was necessary.

Nazum and Associates⁹ showed that, "Among complications of the disease, all patients developed a unilateral or bilateral purulent otitis media. Pure cultures of pneumococci were isolated from eight discharging ears, the hemolytic streptococcus in two patients, and the streptococcus viridans in the remaining case. One child developed an acute and fatal mastoiditis." Both of my operative cases of mastoiditis were in adults and during the convalescence.

Major Hamburger¹⁰ says that, "In the early days of the epidemic, patients died in two or three days, consequently pus did not have time to form, but later in the epidemic the virulence became lessened and cases ran the entire course, with purulent otitis media and mastoid complications."

Capt. Happel¹¹ reported that, "Very little otitis media occurred up to time epidemic subsided, but recurrent suppuration from old lesions were noted." There seemed to be no especial time or stage of the disease with me when the otitis would show up. In some cases it appeared within a few days of the onset while in others it came late in the disease or in convalescence.

A theory has been advanced by some writers which is entirely at variance with the preceding theories in that they claim the infection is caused by a hemolytic streptococcus in the blood. I am not defending or condemning either theory, as I am not a bacteriologist and therefore am not in a position to pass judgment on this.

Beals, Blanton and Eisendrath,¹² in their article say that, "It seems certain, therefore, that with hemolytic streptococci in the blood stream, etc." Thereby claiming the hemolytic streptococci as the causative factor, which seems plausible.

Stone and Swift¹³ offer the most conclusive proof of the hemolytic streptococci and yet they do not claim it as the cause of epidemic influenza. They give some interesting results of necropsy of cases coming under their care at Ft. Riley, Kan. "In 17 cases (41.4 per cent) either one or both middle ears were involved. In two cases an acute congestion was found. In the others, a thin, yellow pus filled the cavity as well as the mastoid cells. There was no bone necrosis in the mastoid, even in cases of several days duration." The two cases of mastoiditis that were

operated by me were both of long standing and both showed bone necrosis, one extensive with quite a quantity of pus which was neither thick nor thin. The other showed a small amount of necrosis and a very small amount of thin yellow pus. "Extension of the infection to the cells of the mastoid was present in every case examined. The prevailing type of infection was a hemolytic streptococcus, which was present singly or in combination in 35.3 per cent." They also show that the hemolytic streptococcus was not present in the sputum of patients examined, but in nearly all cases where a blood culture was made it was found. "The *B. influenzae* was the predominating organism obtained in 35.7 per cent of 300 nasopharyngeal cultures from influenza patients. The evidence strengthens the belief that the influenza bacillus, or some unknown virus, merely served to predispose to pulmonary infection with organisms commonly known to produce pneumonia, such as the pneumococcus and streptococcus hemolyticus. It is well known that the tonsil crypts harbor the hemolytic streptococcus in from 75 to 85 per cent of those examined by various workers. It seems fair to assume that its presence in the tissues of the body may not be, in the vast majority of instances, incompatible with health; but it is evident in view of the necropsy findings here recorded, that whatever organism or virus may be responsible for the acute respiratory invasion, the hemolytic streptococcus, whether introduced from within or without, became the most serious factor in the production of high mortality."

Dr. F. L. Watson, of McAlester, early in the epidemic, made the statement that the hemolytic streptococcus was the prime factor in the epidemic of influenza and gave the following as his reason: "Subsequent findings of laboratory have borne out my early clinical assertion of November, 1918; that the sudden deaths with and without pulmonary edema following this disease were due to hemolytic streptococcus. This assumption is based upon the deduction of the similarity of the clinical symptoms to death from hemolytic streptococcus, reinforced by the death of a nurse from septicemia who was bitten on the finger by a man who died on the fifth day from the pulmonary type of the disease. Also the jaundice and falling of hair in those who recovered. The bacillus influenza with its powerful debilitating effect because of its rapid autogenous immunizing powers acted as an opsonin preparing the field by a lowered resistance to the onslaught of that lynx-eyed terror, hemolytic streptococcus, whose ever present watchers are only awaiting the lowering of those vital resistant forces, when suddenly they gain ascendancy over their normal antagonists, and go right on to victory over mankind."

In an editorial in the *Journal A. M. A.*, May 3, 1919, quoting from the article of Pilot and Davis,¹⁴ they bear out the theory as advanced by Dr. Watson when they say, "The existing dormant organisms in the tonsils or throat may become enhanced in their virulence through symbiosis or in some unknown way by the primary virus, or by the bacteria, such as *B. diphtheria*, the pneumococcus, or the influenza bacillus. They may become active through the diminution of the resistance of the local tissues of the respiratory passages." If this be true, then the resistance of the ear is no greater than the respiratory passages, so it is possible for them to become active in the ear the same as in the respiratory passages or any other part of the body. "They may attain increased invasive powers through the lowering of the general resistance of the host overwhelmed by an acute or chronic toxemia. Probably all three factors are combined in certain diseases, though one factor often appears to be more important than the others. Thus, in acute respiratory and throat infections, streptococci seem to spread from the tonsillar crypts to the adjacent mucous surfaces, descend into the bronchi and lungs, and enter the blood stream from these tissues."

The article further states that from reports from bacteriologists in the army, antiseptic treatment of the tonsils has not given satisfactory results because the crypts cannot be reached effectively. Excision of the tonsils renders the throat free from the streptococci in most cases.

SUMMARY.

1. The ear complications were not infrequent in the recent epidemic, but were rather frequent in most every one's practice with whom I have come in contact and from reports in the literature at my disposal.

2. No deaths occurred in my practice from ear complications, neither did any occur to my knowledge in this state.

3. From the reports at hand the systemic invasion of many organs and tissues by the infections responsible for the pneumonic process was evident at necropsy. This refers particularly to the brain and meninges, the middle ear, mastoid, and sinuses.

4. In forty-one necropsies, otitis media and mastoiditis existed in 40.1 per cent. (Stone and Swift.)

5. The pneumococcus was revealed in 56.1 per cent and the streptococcus hemolyticus in 41.1 per cent from cultures made from the lungs, pleural fluids, heart's blood, sinuses mastoids and tissue in 55 necropsies.

6. In 20 per cent of my cases the drum membrane ruptured or I did a paracentesis and relief was obtained.

7. The two cases of mastoiditis coming to operation had had no drainage. Both were in late convalescence.

8. The positive causative factor of epidemic influenza has not been established, but it is highly probable that it is the B. influenzae associated with the pneumococcus and hemolytic streptococcus.

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- (12) Beals, Blanton and Eisendrath, Jour. A. M. A., March 22, 1919.
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POSTDIPHTHERITIC PARALYSIS.

A case of general postdiphtheritic paralysis in a 3-year-old boy and another in one aged 7, are reported by S. W. Boorstein, New York (*Journal A. M. A.*, Feb. 21, 1920). He describes the symptoms and varieties of this disorder. While severe, the disease may be curable. In the first case, he credits orthopedic treatment as probably of more value in hastening the recovery than the antitoxin administered. In the second case, which had lasted altogether two months, antitoxin was early administered, but still paralysis developed. In this case what skepticism he had as to the value of the orthopedic treatment in the previous case was dispelled by the greater and more notable success. The article is illustrated.

Poor Dad.

"Every one in our family is some kind of an animal," said Johnnie to the amazed preacher. "Why, you shouldn't say that," the good man exclaimed. "Well," said Johnnie, "mother's a dear the baby is mother's little lamb, I'm the kid, and dad's the goat."

PROCEEDINGS OF THE ST. ANTHONY CLINICAL SOCIETY.

DR. CURTIS R. DAY, President.

DR. J. F. KUHN, Secretary.

DEATH REPORT.

Dr. J. F. Kuhn. *Influenza. Bronchopneumonia.*

Miss I., age 24. This young woman was brought to the hospital on a stretcher complaining of the following symptoms: weakness, rapid labored breathing, rapid pulse, temperature 102.4, and a cough with tenacious yellow sputum.

When I was first called to see her, in consultation, it was thought that she was a surgical case because she had nausea, vomiting, fever, and tenderness in the abdomen. She gave a history of gc. infection several weeks ago. She had also had a severe cold eight days previously. Her symptoms did not point definitely to any surgical condition and two days later she developed influenza, possibly of the abdominal type.

Twelve hours after her entrance to the hospital she had pains in each side and the signs of beginning pneumonia. Examination of the chest revealed dullness and diminished breath sounds over the lower left lobe, the axilla and interscapular areas. Increased fremitus over the lower half of the right chest. Numerous fine rales at both bases and over the upper part of the right chest. She developed a "to and fro" friction rub in the left side which was relieved somewhat by strapping with wide adhesive straps.

One day later, fine, moist rales all over right lung. Temperature subnormal, respiration 40, pulse 108, W. B. C. 17,600, Poly's 86. Sputum showed staphylococcus. No pneumococcus or T. B. She was given tincture digitalis q. six hours, sodium bicarbonate 30 grains every four hours, sedatives for pain, liquid diet and plenty of water.

Two days later the dyspnea was marked and there was beginning cyanosis of the face and hands. Flatness over the entire left chest from pleural effusion. The B. P. was 98-40. The respiration became more dyspneic and the heart weak and irregular.

She became unconscious and died from deficient aeration of the blood.

Autopsy was not permitted.

CASE REPORTS.

Dr. Antonio D. Young. *Aneurism. Two cases.*

Aneurism has been recognized since the time of Galen. It has always been associated with exertion and infectious disease, but the most constant infection has been syphilis. At the present time it is rare not to find a positive Wassermann with this condition. In fact aneurism is often one of the first signs or manifestations of lues. Associated with it are high blood pressure and arteriosclerosis, the former probably resulting from the latter condition.

It begins as an endarteritis which leads to a destruction of the elastic fibers and the formation of dense connective tissue. The tunica media also becomes involved and there is a granular deposit of lime salts in the vessel wall, making it thick and hard.

Since the first few inches of the aorta receives the greatest force of the heart action, aneurism is most likely to happen at this place. The ascending portion and the arch are the most common sites.

The form depends upon the atheromatous changes within the vessel wall. If the sclerosis is symmetrical, the dilatation is alike on both sides and is apt to be fusiform in character. If the elasticity is lost on one side, the aneurism is sacculated. Dissecting aneurism with splitting of the media results from the ulceration or degeneration of one of the calcified plaques.

Aneurism is of considerable medico-legal importance. It is not infrequent that an injury or accident may result in liability suit for pathology that already existed.

The first case I wish to show is a woman 38 years of age who complained of neuritis of the right arm. She had pain in the back of her neck and her right shoulder. She had pulsation of the vessels, trachial tug, shortness of breath, and general weakness. There was no visible tumor, but the left radial pulse was strong and receding and the right was weak. Her Wassermann was 4 plus and there was no other source of infection. There was no involvement of the nervous system except hesitating speech. B. P. 195 systolic, diastolic not obtainable.

Percussion disclosed marked dullness in the upper mediastinum. It was necessary to use the x-ray and blood count to differentiate this from mediastinal tumor and enlarged mediastinal glands.

A harsh to and fro murmur is heard all over the cardiac area, and there is a bruit over the right chest.

The series of x-ray plates taken at different dates shows a fusiform aneurism which is enlarging rapidly.

The second case is a man 50 years of age in which the diagnosis can be made at a glance. He has a large pulsating tumor to the right side of the sternum covered over by skin and fascia. He has a typical text book case of aneurism. He has had destruction of the sterno-costal articulations on the right side which has caused intense grinding pain. His metallic cough and hoarseness are probably caused by pressure on the recurrent laryngeal nerve. There is shortness of breath but not as much weakness as is generally seen in cases so far advanced. Because of the dilated aortic ring, he has an aortic regurgitation and because of the increased work, a hypertrophy of the left ventricle.

In this case there is a 4 plus Wassermann with a history of infection twenty years ago.

Dr. S. R. Cunningham, *Injuries of the Spinal Column. Three cases.*

The skull and vertebral column have in common the function of protection to vital tissues. The vertebral column has the added responsibility of support and flexibility of the body and it is to this latter function that I want to refer in this clinic, not to be critical of past and present day teaching, but rather to show that we must exercise great care in early diagnosis and treatment of acute spine injuries.

One eminent orthopedist says, "It is only in the cases of injuries of the cervical region that the victim can walk about if the injury amounts to fracture or dislocation." Another authority says, "There is no recognized fracture of the spinal vertebra without some nerve root or spinal cord injury."

I will admit that the study of injuries to the spinal column (like injuries to the skull) is dominated by the possibility of associated injury to its contents. However, the group of cases I will show, prove that the amount of nerve and cord injury do not depend upon the amount of bone damage.

In injuries of the spinal cord it is important to determine the extent and location of the damage. In a complete lesion of the cord there is persistent, symmetrical, total, flaccid motor paralysis with sensory paralysis in the corresponding area, loss of tendon reflex, paralysis of the bladder and rectum and an absence of all motor and sensory irritative symptoms in the paralyzed area.

In a partial lesion there is sensation and partial motion with signs of regeneration. If control of the bladder and rectum is lost, it is soon regained.

Let us consider the method of examination of a patient who has sustained a spinal column injury. If he is brought in on a stretcher unable to stir, he has lost the supporting power of the spinal column or he has sustained an injury to the nervous system, or possibly he may be suffering from both. Beginning at the upper extremities, there are certain positions assumed that are characteristic of lesions in a definite location. If the arms are movable down to the finger tips

and the patient can adapt them to any position desired, the injury is below the first dorsal segment. If the hands are half closed, the elbows flexed and the forearms moderately pronated on the chest, the injury is about the level of the seventh cervical segment.

If the arms are above the head and rotated outward with the fingers semi-flexed, the forearms supine and the elbows bent, the lesion is in the sixth cervical segment. There is a blocking of the nerves to the subscapularis, pectorales major and minor, pronatores and triceps. If the arms lie prone to the side and are completely paralyzed, the damage is in the fifth cervical segment and the nerves to the deltoid, biceps, supinators, rhomboids and the supra and infraspinatus are blocked, any damage above this point affects the phrenic nerve and death results from paralysis of the diaphragm.

Paralysis of the pupillary control with a contracted and fixed pupil, indicates a disturbance of the sympathetic branch from the first dorsal segment. Lesions of the second, third, fourth, fifth and sixth dorsal segments cause paralysis of the intercostal muscles and is not so important.

The next most common injury is from the first to the second lumbar vertebra. The disturbance is below the abdomen. There may be crushing injury to the vertebra without any injury to the cord itself. In that case the ankle clonus is negative, the reflexes are prompt, and there is mobility of the legs. But if the legs are limp, whether the reflexes are exaggerated or abolished, there is contusion or impingement of the cord. I want to emphasize the importance of an x-ray on every case of back injury. So many times the injuries to other parts of the body may cause one to overlook a fracture of the vertebra which has no cord manifestations. Injuries in the lower dorsal segments give symptoms limited entirely to the lower extremities and if it is in the cauda equina, it is of less importance.

Paralysis of the vasomotor nerves is indicated by hyperemia of the paralyzed extremities and usually congestion of the corpus cavernosa penis which, if irritated, may pass into a state of erection. Sensory paralysis is indicated by the inability to tell heat from cold and sharp from dull objects.

Case No. 1. Admitted to the hospital August 15, 1919. The first case is a well developed young negro man who was thrown from his automobile when he collided with a passenger train. He was unconscious for a few minutes but was mentally clear when he came into the hospital. He had motor paralysis of the lower extremities and paralysis of the bladder and rectum. On first examination no deformity was found, but there was a localized tenderness in the lumbar region. Babinski and ankle clonus were negative, but both knee jerks were exaggerated. X-ray showed a fracture and dislocation of the first lumbar vertebra.

He was put up in a plaster jacket extending from under the arm pits to the knees. He now wears a close fitting jacket extending from the arm pits over the crest of the ilia. Some of the symptoms began to clear up early, but he was etherized twice a day for thirty days. It is much to the credit of the intern that there was never a sign of cystitis, which is one of the most frequent complications of injuries of this kind. Boric acid irrigation was used each time and the urine was kept acid by using acid sodium phosphate and urotropin.

As this patient walks across the floor he has almost normal gait except a toe drop which may be corrected by supporting the foot at right angle while waiting for nerve regeneration or possibly by tendon transplant at a later date.

Case No. 2. Entered the hospital December, 1918, seven months after the injury. This case shows that bone destruction does not always give cord symptoms. The patient became overbalanced while lifting a barrel of oil, and fell against a ladder. He considered it a sprain and would have continued to work had it not been for the pain in his back. It was seven months after the accident before he came for treatment, having been in the hands of chiropractors for some weeks just previous to admission to the hospital.

X-ray shows a fracture of the seventh and eighth dorsal vertebra with con-

siderable destruction of the bodies of the vertebra. This is a case in which early diagnosis and treatment would have meant everything. Now he has a kyphosis in the dorsal region and is unable to sit or stand without support. There has never been any evidence of cord or nerve injury. He has worn a well fitting plaster jacket for the past eight months and is here now for examination looking to further treatment. It is my opinion that a bone graft offers him best results at this time.

Case No. 3. Admitted to the hospital December 24, 1917. The last case illustrated the importance of early treatment. This young man was injured by falling five stories through an elevator shaft striking on top of the elevator. There was a compound fracture of both legs, a fracture of two ribs, and many bruised and lacerated wounds. We overlooked the spine until he started to sit up in a wheel chair two or three weeks later when he said his spine "gave way." X-ray, which should have been taken at first, showed a crushed first lumbar vertebra and a dislocation of the second. He wore a plaster jacket from over his shoulders to his hips for eighteen months. At the present time there is good flexibility of the spine and he complains of no weakness. You will see by the x-ray plates that there was great crushing and great angulation of the spine. There were no signs of cord or nerve injury at any time.

DISCUSSION.

Dr. A. D. Young: Trophic disturbances appear early in these cases and, if there is severe contusion of the cord, prove fatal in a few hours. If the cord is severed, the reflexes should be exaggerated theoretically, as a matter of fact they are abolished.

The injured segment is usually one or two above that indicated by the anesthetic zone because of the overlapping of the nerve fibers.

In the majority of these cases there is retention of urine, but the bladder will overflow automatically if it gets too full.

Dr. Horace Reed: In the second case of the man who was lifting the weight, there is a possibility of a lesion having already existed. The first manifestation of a tubercular spine is a sudden giving way under unusual strain. Of course, no x-ray was made for months but the question is, did he have the injury because of the fall or did he fall because of already weakened vertebra.

If there are signs of cord injury, operate early, but if there is a transverse lesion there are no hopes of repair. The foot drop is due to an injury to the nerve. If the foot is held at a right angle to the leg, it puts the muscles at rest and gives the nerve a chance to regenerate.

Dr. LeRoy Long: No doubt there are many cases of broken backs without cord injuries. It happens often in miners and industrial workers. If the spine is hyperflexed, the injury is apt to be a crushing injury of the body of the vertebra with a tearing away of the ligaments. In extreme cases it may pinch the cord or sever it entirely.

Don't operate if there are any signs of function. The injury is hard to locate and regeneration may take place without operation.

Dr. Cunningham (closing): If we could distinguish between contusion and compression, the question of when to operate would be less difficult to solve. One author claims the only indication for operation is in cord symptoms from depressed fragments. If there is already an open wound with the signs of compression, operate. But in cases of paraplegia, wait several days; the patient is not a good operative risk and the regeneration may begin early.

In case No. 2, he was a strong, healthy man of good habits and family history. I do not believe there was pre-existing pathology because he had been working every day and the fact that he was able to lift that much, argues against caries. Considerable bone destruction is expected in an untreated fracture of seven months' standing, or rather several weeks mistreatment by chiropractors.

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EDITORIAL

YOUR ADVERTISERS; DOCTOR.

Once more, at the risk of being charged with harping on an old subject, we wish to call attention of every reader of this, their own Journal; their own property; to the importance of giving every consideration to our advertisers. In the first place they publish your Journal for you, their patronage lifts a burden we formerly found rather heavy; in that respect they, with us, are growing better all the time. A glance at the columns they occupy will convince one of their importance to us. Secondly, their class and ethical standing is irreproachable; outstate advertising is never accepted until thorough investigation by experts shows them worthy of your confidence and co-operative support; those offers for space tinged with suspicion are rejected promptly, and allowed to spend their money for propagation of questionable goods with "Independent" medical publications, blessed with elasticity of business ethics.

These, and the consideration that those who aid you should receive your aid in return, should cause all of us to not forget them when the time to purchase comes. Every little purchase helps them; price and quality being equal, it is a very unfair act to forget them and spend your money with houses who do not support you. Read the advertisements; clip their coupon offers and give your friend a trial at least.

THE MEDICAL PROFESSION OF OKLAHOMA.

Since 1902 we have been in a position to observe the medical man of Oklahoma. We were present when the Indian Territory and the Oklahoma Association combined and formed the Oklahoma Medical Association, and from thence onward

our progress has gone forward by leaps and bounds until today the profession presents a front second to none. During this same period we have visited the leading medical centers both in this country and abroad and have tried to pay particular attention to the various techniques exhibited in these numerous clinics. Today we are prepared to invite whomsoever that are interested to visit not one, but any of the larger cities in Oklahoma and look in on operations being performed, or the methods employed in clinical work by any one of the leading men in these several places. Compare it with what may be seen in the large, the larger the better, medical centers. You may be surprised.

We are certain that you will come again.

C. W. H.

A UNION OF DOCTORS.

STRIKES AGAINST PATIENTS.

Vienna, Feb. 2—The hospital physicians of Vienna, with their assistants, struck today.

Almost coincident with the receipt of the foregoing dispatch, came one from Portland, Ore., stating that Otto Hartwig, the president of the Oregon Federation of Labor, was planning a movement to organize the Portland physicians, surgeons and dentists into a union to affiliate with the American Federation of Labor. According to Hartwig, these professional men desire such a union.

The proposed union, Hartwig says, would guarantee the physicians, surgeons and dentists an eight-hour day; the right to picket offices of non-union medics; the power of the sympathetic strike and a "living fee."

It is probable that Hartwig is wrong in his impression that physicians, surgeons and dentists of Portland are in favor of the proposed union. It may be that he is merely the too-credulous victim of propaganda spread by his assistants.

It is difficult to bring one's mind to a belief that reputable physicians, surgeons and dentists would enter such a union. These men are in professions the duties of which consist in the alleviation of pain and the saving of human lives. When they voluntarily entered these professions they became morally bound to relieve suffering at any time and any place. It is inconceivable that any American physician or surgeon would refuse to work more than eight hours a day when there were patients in urgent need of medical attention; or that American physicians and surgeons would quit a patient at acritical period of a disease or leave him on the operating table in the midst of an operation in order to answer a call of a union leader to start a strike. Nor is it conceivable that an American dentist would refuse to give treatment to a patient suffering from toothache or an abscess or other serious affection within the dentist's power to cure.

But the walkout of hospital physicians and their assistants in Vienna shows the dangerous possibilities of extending the labor union strike weapon into the medical professions. And Vienna, with its enormous number of sick persons, is in worse condition than American cities to stand such a crisis.

It is to be hoped that Oregon is the only state in America where any labor leader even thinks he has reason to believe that physicians, surgeons and dentists will enter a labor union and use the strike to raise their fees. It is hardly possible that an indorsement of such an organization could be secured from members of these professions except in a bolshevik city like Vienna.—Daily Oklahoman, February 5, 1920.

There need be no worry on this score. Physicians above all others realize the rule of the survival of the fittest. They realize, too, that injection of the principle of trades unionism will inevitably result in smothering individual initiative; that the mass will be drawn down to the level of the mediocre. His success is dependent on himself solely, with proper affiliation with his fellow, but not to the end that all will find the level of the lowest. His ideal is to bring the lowest, least informed, most inefficient up to the standard. Unionizing him would make of him a machine, largely responding to the edict of the preponderant average present in all bodies of men. A cardinal principle of his creed is that the needy shall never suffer by his studied activity; he extends relief first, inquires, often with disappointment for his reward after his good work is rendered; protected by no class legislation of lien on every tangible vestige of his patients' goods, as is the unionized laborer, he indeed stands as exponent of the principle that the trials of men are the problems of all. The walking delegate or "Business Agent" knows him not; his hard-earned knowledge is expended in the face of opposition from the designing, the profiteer on human misery, the scientist and mushroom faddist born

of yesterday, tomorrow a memory. If he ever really unionizes himself, bolshevism will be as a summer day compared to the power for ill he will hold. But such a revolutionary hour will not come. We believe he will always remain what he is—a patriotic man proof to the illogical blandishments of passing hysteria.

PERSONAL AND GENERAL NEWS

Dr. S. H. Williamson, Duncan, underwent an operation for appendicitis in January.

Dr. M. C. Comer, Clinton, has returned from a visit to the New Orleans eye, ear, nose and throat clinics.

Dr. H. C. Manning, Cushing, underwent an operation for appendicitis at an Oklahoma City hospital February 7th.

Dr. F. P. Von Keller, Ardmore, sustained painful injuries when his machine collided with an unlighted street-sweeper.

Ottawa County Excise Board set aside \$2,500 to aid the U. S. Public Health work being done in that county. A full time health officer is contemplated in the plans.

Tulsa's new Hospital, to be erected under charge of the Catholic Sisters of the Sorrowful Mother, will soon assume tangible form. The plant in its entirety, it is said will cost one million five hundred thousand dollars.

Sapulpa seems now to be assured of a modern hospital. Necessary additional funds have been raised by the Kiwanis Club, definite plans coming within the funds available have been adopted and construction will soon begin.

Dr. Howell B. Guinn, Captain, Medical Corps, 3rd Infantry, stationed at Eagle Pass, Texas, formerly of Tulsa, writes that he will soon be discharged. Dr. Guinn states that he missed his Journal for several months, and compliments its contents and appearance highly, on receiving the back numbers.

West Main Maternity Sanitarium, 1547 West Main St., Oklahoma City, is a newly established institution noted among our advertisers. Dr. M. H. Newman is Medical Director. The institution will handle maternity cases only, and will give especial attention to the care of unfortunate expectant mothers and their children; seeking to avoid publicity and place the infant in suitable homes, if desired. Dr. A. L. Hinkleman will do the laboratory work and a competent staff of consultants has been selected.

Dr. Katherine L. Storm, of Philadelphia, is announcing the removal of her office from 1541 to 1701 Diamond Street, Philadelphia. The new building which Dr. Storm has purchased, has treble the capacity of her present building, and is being equipped with every facility for quick and exact work. Dr. Storm is justly proud of the ever widening demand for the Storm Binder and Abdominal Supporter, and is planning to maintain her reputation for immediate response to each order.

Increased Compensation for disabled soldiers is the immediate result of the Sweet Bill. This act not only increases amount now being paid, but is retroactive and those receiving compensation heretofore also receive the amount due them from time of first award as additional payment. Many other features affecting the soldier, too numerous to mention here, are in force. A card to the Bureau War Risk Insurance, Washington, for information will obtain full explanation of every phase of the matter.

Oklahoma County Medical Society announces the following program of future meetings:

Sat. Jan. 24—(1) Hyperthyroidism. (a) Dr. A. L. Blesh. Discussion: 1. Dr. R. M. Howard; 2. Dr. R. M. Balyeat. (2) Why I use three drugs. (a) Dr. A. B. Chase. Discussion: 1. Dr. J. M. Alford; 2. Dr. H. C. Bradley.

Sat. Feb. 14. (1) Work, Opportunity and needs of Oklahoma Health Dept. (a) Dr. J. L. Martin. 1. Dr. W. H. Miles; 2. Dr. Geo. Hunter; 3. Leo Minton; 4. C. E. Clifford.

Sat. Feb. 28—(1) Diagnosis of obscure late Syphilitic Lesions. (a) Dr. J. W. Riley. Discussion: 1. Dr. C. J. Fishman; 2. Dr. Rex Bolend. (2) General application of Laboratory Findings. (a) Dr. J. H. Roddy. Discussion: 1. Dr. Wm. Bailey.

Sat. March 13—(1) Diagnostic considerations of Hematuria. (a) Dr. J. A. Mraz. Discussion: 1. Dr. W. J. Jolly. (2) Deep Urethral Infection. (a) Dr. C. B. Taylor. Discussion: 1. Dr. W. J. Wallace; 2. Dr. C. R. Day.

Sat. March 27—(1) Important considerations relative to Tissue examination. (a) Prof. Turley. Discussion: 1. Dr. W. Langston; 2. Dr. W. H. Bailey. (2) Modern Interpretations of skin eruptions relative to Internal Medicine. (a) Dr. E. S. Lain. Discussion: 1. Dr. Lea A. Reily; 2. Dr. J. M. Postelle.

Sat. April 10—(1) Tuberculosis of the Throat. (a) Dr. E. S. Ferguson. Discussion: 1. Dr. J. C. McDonald; 2. Dr. L. A. Newton. (2) Status of Caesarian Section. (a) Dr. W. W. Wells. Discussion: 1. Dr. J. C. Hatchett; 2. Dr. Dick Lowry.

Sat. April 24—(1) Diagnosis of chronic Gastro-intestinal conditions. (a) Dr. A. W. White. Discussion: 1. Dr. D. D. Paulus; 2. Dr. J. E. Heatley. (2) Significance of Blood Pressure. (a) Dr. J. H. Maxwell. Discussion: 1. Dr. Wm. Langsford; 2. Dr. L. E. Andrews.

Sat. May 8—(1) Symposium of Cancer of Uterus. (a) Pathology—Dr. W. Langston; (b) Diagnosis and Surgical Treatment. 1. Dr. R. M. Howard. Discussion: a. Dr. J. E. Harbison; b. Dr. S. R. Cunningham; (b) Electro-x-ray & Radium Therapy. Dr. M. M. Roland.

Sat. May 22—(1) Osteomyelitis. (a) Dr. LeRoy Long. Discussion: 1. Dr. E. D. McBride; 2. Dr. W. K. West. (2) Deviation of Nasal Septum. (a) Dr. D. D. Mellenry. Discussion: 1. Dr. H. C. Todd; 2. Dr. A. L. Guthrie.

Sat. June 12—(1) Conditions frequently mistaken for Appendicitis. (a) Dr. M. E. Stout. Discussion: 1. Dr. J. E. Kuhn; 2. Dr. J. S. Pine. (2) Routine technic in the management of labor. (a) Dr. J. G. Binkley. Discussion: 1. Dr. R. E. Looney.

Sat. June 26—(1) Fluids in the pleural cavity. (a) Dr. Lea A. Riely. Discussion: 1. Dr. L. J. Moorman; 2. Dr. M. Smith. (2) The absurdities of Medicine. (a) Dr. Antonio D. Young.

All meetings are open to the presentation of clinical cases.

DOCTOR B. E. BRASELTON.

Dr. B. E. Braselton, of Miami, died in that city February 9, 1920, from pneumonia. Dr. Braselton was 43 years of age at the time of his death. Interment was had at Bridgeport, Texas. His untimely answer to the call of the reaper is regretted by many friends. During the war he was commissioned as Captain in the Medical Corps October, 1918, served at Camp Logan and was discharged from that camp March 4, 1919.

MISCELLANEOUS

THE FUNCTION OF A MEDICAL SOCIETY.

A Medical Society is not a trade union, a business organization, nor a conference devoting its time to a discussion of hours, pay, cost, competition, restraint, or finance. It is an organization of men gathered together that they may better serve the public by keeping abreast of the times through the exchange of experience and the work of others. The work of the medical society is to make bigger, broader, kindlier men—men who can go out from its meetings not only more skillful and learned in their science, but more worthy the respect and confidence the degree Doctor of Medicine should bring. The medical society asks that men engaged in God's noblest calling work one with another and not one against another. It stands for honesty, truthfulness, progress, unity, and self-betterment that we may be better practitioners of our art and better men.—Slyster.

DOCTOR OR SPECIALIST.

"A good doctor is made of a well-educated man who feels deeply the needs of the sick and believes himself called to live and work for their cure and the prevention of the same diseases in the well. This consecrated man must be educated in all that the labors of medical men in the past have discovered and be guided onward to the very boundary of our exact science and into the disputed territory of ignorance and perhaps of superstition. These excursions should be led by a veritable medical scout who has in practice all the arts of pioneering, adventure and discovery. The motive for all these efforts in education should be constantly kept prominent, and the forgetful medical student should be tripped by his teacher into perpetual consciousness that it is the duty of the doctor to his patient."—Bayard Holmes.

All half-baked or other underdone specialists should be exterminated. No physician has a right to that title unless he has been trained to avoid the pitfalls and dangers which may imperil the health and life of his patient. It is nothing short of a crime to turn a patient over to an un instructed and ignorant novice and tell him to "go ahead and operate." Just so long as such a state of things exists, and unfortunately such a state does exist here and now, just so much worse it is for specialism and for the patient. Let every man have at least three years of varied training in general practise, let him devote all his time and energy to learning a specialty under a competent instructor for at least one year, then submit him to a test ("Regents," or Council of his Fellows), and we shall have specialists who are not an everlasting discredit to the profession.—Irving Wilson Voorhees.

TO ALL PHYSICIANS WHO SERVED THE FEDERAL GOVERNMENT DURING THE WAR:

An association of Medical Veterans of the World War was organized at Atlantic City, in June, 1919, at the time of the meeting of the American Medical Association, and a constitution and by-laws adopted. About 2,800 physicians have already joined and all others who are eligible are invited to join the society.

The Constitution states that "The Dominant Purpose of this Association Shall be Patriotic Service. The objects of this association shall be: To prepare and preserve historical data concerning the medical history of the war; to cement the bonds of friendship formed in the service; to perpetuate the memory of our medical comrades who made the supreme sacrifice in this war; to provide opportunity for social intercourse and mutual improvement among its members; to do all in our power to make effective in civil life the medical lessons of the war, both for the betterment of the public health and in order that preparedness of the medical profession for possible war may be assured."

The organization of the society provides for state and local organizations wherever the members desire it, and in some states, such as Wisconsin, organization has already been effected.

It is desired by the National association that those who are already members meet together in larger and smaller groups, at the first convenient opportunity, and effect a local organization with a chairman and secretary, and also at the next meeting of the state medical society that a place be provided on the program for the Medical Veterans.

The organization of the society is based on democratic principles and it is hoped that the members who have already joined will take the initiative and organize their own state and local societies.

The national organization will assist by furnishing application blanks and copies of the constitution and by-laws, and, if desired, stationery.

The first things to be done after the organization of a state society is effected is to elect a councillor to the general council of the organization, to represent the state society at the next annual meeting of the Veterans at New Orleans on the first day of the meeting of the American Medical Association, April 26, 1920.

A badge or button for members of the society is being made and will soon be ready for distribution.

Yours very sincerely,

F. F. RUSSELL,

Secretary.

THE IDEAL GENERAL PRACTITIONER.

He is virile by virtue of his environment; he is self-reliant from his isolation; he is resourceful from necessity; he exalts common sense above fine theories; he deals with all conditions and preserves a breadth of vision, grasps general principles, and, failing the finer technical knowledge of the specialist, is spared the distortion of his perspective. He knows his patient as a man and a friend and not as a commodity, and he it is who exemplifies best and most consistently that unselfish regard for others that glorifies medicine.—Meara in *Boston Med. and Surg. Jour.*

OPPORTUNITY.

Master of human destinies am I!
Fame, love and fortune on my footsteps wait,
Cities and fields I walk; I penetrate
Deserts and seas remote, and passing by
Hovel and mart and palace, soon or late
I knock unbidden once at every gate!
If sleeping, wake; if feasting, rise before
I turn away. It is the hour of fate,
And they who follow me reach every state
Mortals desire, and conquer every foe
Save death; but those who doubt or hesitate,
Condemned to failure, penury and woe,
Seek me in vain, and uselessly implore,
I answer not and return no more!

—John J. Ingalls.

CELEBRATES THIRTIETH ANNIVERSARY.

The Thirtieth Anniversary of the founding of The Abbott Laboratories is being celebrated this month. This firm has recently established the precedent in the pharmaceutical field of placing their employes on a profit sharing basis.

It is a notable fact and one worthy of commendation that more new medicinal chemicals, and council-passed products have come from the house of Abbott during the past five years than from any other firm in this country.

SOUTHERN CHIVALRY IN MONTENEGRO.

In rehabilitating the American Red Cross hospital in Cetinje, Montenegro, which was left by the Austrian armies in an unspeakable filthy and dilapidated state, male labor was used—perhaps the first time in the history of the little mountain kingdom that such a thing has happened. On the arrival of the Red Cross, a request was sent to the prefect for thirty-eight men to help in the work of cleaning up. The women have always done such work before, and so naturally the prefect sent thirty-eight women. But this did not agree with the plans of Captain William Watts, who was in charge of the work.

"This hospital is going to be built on the American plan," said Captain Watts firmly. Captain Watts is from Georgia, and the idea of employing women to work was abhorrent to him.

Neither the prefect nor the women, however, seemed quite to grasp his point of view. "What is the matter?" one of the women demanded. "Don't we look strong enough?" And the old prefect looked on with a puzzled expression. For centuries the women have done this sort of work in Montenegro, and he shook his head as much as to say: "These American ideas! Sentimental piffle!"

But Captain Watts won his point in the end; Southern chivalry compromised with Balkan custom; and a gang of men went to work on the drains, while the women looked on with smiles, and an air of superiority, as who should say; "H'm! They'll never be able to stand it. Who ever heard of men doing heavy work like that!"

But before many days the work was finished, and the hospital was running at capacity. The old social order had been reversed without a male suffrage campaign. And the hundreds of sick in Cetinje were being efficiently cared for in the renovated wards.

MILITARY TRAINING.

M. W. Ireland, Surgical General, U. S. A. (*Journal A. M. A.*, Feb. 21, 1920), says that no real survey of the man power of the United States has ever been made, but it is well known that many surprising facts would be developed if it were. The Civil War gave a certain indefinite survey at that time, but since then tremendous changes have occurred, and the human system has not yet adjusted itself to them. For a long time scorn has been pointed at the Regular Army and Navy because of their high percentage of venereal disease—the reason is that we *knew* the amount among soldiers and sailors and published it to the world. It is almost always acquired from without a military reservation. It is interesting, therefore, to review the statistics furnished by the draft. The cessation of hostilities before American battle casualties had become significant as compared with the losses of other nations, has given a favorable opportunity to consider the brighter side of the war and to estimate the manifold benefits that have been obtained. Roughly classified, these are: (1) the improvement in physical development as a result of outdoor life, good food, regular exercise and strenuous physical training. The improvement in the physical development of the young man in the Army was most striking. First examinations showed a stream of naked men, awkward, narrow chested with flabby muscles and often a stoop. Contrasted with this, the inspector was tremendously impressed by a similar line of naked men presenting themselves for examination just before demobilization. They were bronzed, erect, broad-chested soldiers, with fine muscular development and a characteristically alert and self-confident air. The gain in weight was notable, and there is no good reason to believe that a six months' training of the youths of our land at the age of 19 would not produce similarly good results. (2) Detection and cure of many obscure and latent pathologic conditions, such as hookworm, malaria, venereal infections, etc. A list is given of some of the important defects discovered. Incomplete statistics show that of the 225,000 cases of venereal disease during the war, 200,000 were present before the men joined the Army. Examination of the physical conditions of the adult male population of military age awakens the nation to the necessity for efforts directed toward limiting the possibility of a continued increase in physical defectives. Another advantage of military training in the war is in the education in sanitation and personal hygiene in camps, both by precept and practice, as well as the education in sex relations. Protection against the dangers of illicit indulgence is also of great importance, as is also the training in discipline and the development of respect for authority. Lastly, Ireland mentions the protection by vaccination of 5,000,000 men against the danger of contracting typhoid and paratyphoid for several years to come. Universal military training would, he thinks, give us a wonderful opportunity for a physical survey of the youth of the land, and many of the disabilities from which men suffer in youth and which they carry through life, could be corrected and avoided in the future. The mental defectives could be classified, and the general good that could be accomplished is unlimited.

Matches.

A New York physician was giving an informal talk on physiology. "Also," he said, "it has lately been found that the human body contains sulphur." "Sulphur," exclaimed a girl in a blue and white blazer. "How much sulphur is there then in a girl's body?" "Oh," said the physician, smiling, "the amount varies." "And is that," asked the girl, "why some of us make so much better matches than others?"

COUNCIL ON PHARMACY AND CHEMISTRY

AMERICAN MEDICAL ASSOCIATION

(The following articles produced by advertisers in this Journal have been accepted for inclusion with New and Non-Official Remedies by the Council on Pharmacy and Chemistry.)

PROPAGANDA FOR REFORM.

Dionol—The Glorified Petrolatum. The exploitation of Dionol is based on the theory: (1) The brain is a generator of neuro-electricity; (2) The nerves are the conductors of this electricity; (3) The nerve sheaths are the insulators; (4) Wherever there is local inflammation, the nerves are short circuited owing to a breaking down of the insulation resistance of the nerve sheaths; (5) This results in "an escape of neuro-electricity"; (6) Dionol coats the nerve sheaths with a nonconducting layer, and this restores the insulation and "stops the leak." Whether this theory was invented to give a "reason for being" for Dionol, or whether Dionol was first invented and it became necessary to evolve a theory that would give some plausibility to the claims made for this etheralized petrolatum, we are unable to say. In any case, the theory and the product are exploited together. The value of the "case reports" sent out for Dionol may be estimated from a report featured under the heading, "infected wound . . ." signed "Dr. W." This "Dr." appears to be an osteopath whose specialty, according to his advertisement in his local newspaper, is "Catarrhal Deafness and Hay Fever, Acute and Chronic Diseases," Jour. A. M. A., Feb. 7, 1920, p. 410).

Hypno-Bromic Compound. A Vermont physician reports that Hypno-Bromic Compound, manufactured by H. K. Wampole and Co., is sold by druggists without prescription, though it contains in each ounce: cannabis indica, 1 grain; morphine, one-quarter grain; potassium bromid, 48 grains; hyoscyamus, 1 grain; chloral hydrate, 96 grains. He writes that he has three young women who have become addicts to the preparation as a result of thoughtless prescriptions from physicians. By visiting the various drugstores in town, these addicts have been able to obtain an ample supply of the preparation. Hypno-Bromic Compound is more than an unscientific mixture: it is a dangerous product that should not be sold indiscriminately over the drug counter. Physicians who prescribe such mixtures and druggists who indiscriminately sell such stuff are disgracing two honorable professions (Jour. A. M. A., Feb. 7, 1920, p. 410).

Eupad and Eusol. Eupad is a powder composed of equal parts by weight of boric acid and chlorinated lime (containing 25 per cent available chlorin). Eusol is thus made: (a) 25 gm. of eupad are shaken with one liter of water, allowed to stand for some hours and filtered. (2) To one liter of water add 12.5 gm. chlorinated lime (25 per cent chlorin), shake vigorously, and add 12.5 gm. boric acid in powder and shake again. Allow to stand, decant and filter. If the official chlorinated lime containing 30 per cent available chlorin is used, a proportionately smaller quantity should be sufficient. (Jour. A. M. A., Feb. 7, 1920, p. 413).

Influenza Vaccines. The *Medico-Military Review*, a semi-monthly mimeographed publication sent to medical officers of the Army by the Surgeon-General's Office, has the following on the use of vaccines against influenza: "YOU ARE REMINDED that so far a comprehensive analysis of results obtained by the use of monovalent and polyvalent vaccines in the prevention of influenza has not demonstrated their value. Much carefully controlled experimental work is now being carried out on this subject both in civil institutions and in the Army, and any worthwhile advances will be reported in the *Review* from time to time. If a prospective vaccine is developed, it will be prepared at the Army Medical School for general distribution and all medical officers will be duly notified. The general use of the present commercial polyvalent protective against influenza is not considered desirable. Numerous telegrams and other requisitions are being received for influenza vaccine. In view of the fact that no prophylactic influenza vaccine is available, such requisitions should be discontinued," (Jour. A. M. A., Feb. 14, 1920, p. 466).

Auto-Hemic Serum. This is an asserted cure for laziness, ugliness, frigidity and many other things. For many years L. D. Rogers, the discoverer of Auto-Hemic Serum, was the chief owner of the National Medical University of Chicago—a low grade school of the "sun-down" variety now out of existence. A few years ago, Rogers was exploiting a cancer serum and selling shares in the "Cancer Research Laboratory and Hospital." In 1915, he exploited a Japanese consumption cure. Then came the Auto-Hemic Serum, exploited by means of "The National Society of Auto-Hemic Practitioners" and the "North American Journal of Homeopathy," the official organ of the "Auto-Hemic Practitioners," and of the "American Medical Union." Auto-Hemic Therapy is described as "The Missing Link in Medicine," and "consists in giving the patient a solution made by attenuating, hemolizing, incubating and potentizing a few drops of his or her own blood and administering it according to a refined technic developed by the author." The "technic" of this new therapy may be learned through a mail order course costing one hundred dollars, "cash-in-advance." One of the chief virtues claimed for the serum is that of developing in the patient who takes it an unbounded energy; it apparently makes him want to work himself to death (Jour. A. M. A., Feb. 14, 1920, p. 477).

Eumictine. The Council on Pharmacy and Chemistry reports that Eumictine is ineligible for New and Nonofficial Remedies because (1) it is unscientific; (2) it is sold under unwarranted therapeutic claims; (3) the name "Eumictine" is blown in the bottle for the obvious purpose of bringing the product

to the attention of the public when it is prescribed in the original package, and (4) the name is therapeutically suggestive and not in any way descriptive of its composition. Emmettine is a preparation from the laboratories of Maurice Le Prince, Paris, France, and is marketed in this country by George J. Wallau, Inc., New York. According to the American agent, "each capsule is supposed to contain 20 centigrams of Santalol, 5 centigrams of Hexamethylene-Tetramine," (Jour. A. M. A., Feb. 21, 1920, p. 542).

Du Pont Cotton Process Ether. Recently the "News Service" of the E. I. Du Pont De Nemours and Co., Inc., circularized the press of the country with a "filler" about "The New Du Pont Ether." The Du Pont Ether and the claims made for it are seemingly based on the work of one man, James H. Cotton, M. A., M. D., Toronto, Canada, who published an article on "Cotton Process Ether and Ether Analgesia." However, Cotton did not give the composition of the "New" ether, nor does his work appear to have been corroborated. In reply to an inquiry from the Secretary of the Council on Pharmacy and Chemistry, the Du Pont Chemical Works declared that the "procedure of manufacture and the exact composition" of the ether was regarded as confidential information. The use of a therapeutic agent of unknown composition is unscientific and contrary to the best interests of the medical profession and the public, but it is many times more serious for physicians to use a secret or semisecret substance as an anesthetic.

Barbital (Veronal) Addiction. The constant use of even small doses of barbital (veronal) affects the central nervous system. Those taking the drug habitually become much debilitated and seem less able to stand moderate doses. Death has occurred from a 3 gm. dose in addicts. (Jour. A. M. A., Feb. 21, 1920, p. 544.)

Antiplasma. A nostrum called Antiplasma or Rudolph's Malarial Specific is being exploited in the South. It is claimed that the preparation was "developed by J. J. Rudolph, M. D.," and that "There is only one way to cure Malarial Fever. Take 15 drops of Rudolph's Malarial Specific on sugar or in molasses, three times daily for six days." The A. M. A. Chemical Laboratory reports that Antiplasma is a pale yellow, viscid liquid having an odor resembling a mixture of oil of turpentine and oil of wintergreen. The preparation responded to tests for rosin, turpentine and methyl salicylate. It was impossible to determine whether the product was a mixture of the three, or some natural turpentine-like product "thinned" with methyl salicylate. The chemists conclude that a mixture of 53 parts of bleached rosin, 41 parts of oil of turpentine and 6 parts of methyl salicylate would probably have whatever anti-malarial properties Antiplasma possesses (Jour. A. M. A., Feb. 28, 1920, p. 618).

Pharmacy by Act of Congress. For years the manufacturers of "patent medicines" have assured us that the alcohol in their nostrums was used only as a solvent, preservative or extractive agent. Thus, Wine of Cardui at one time contained 20 per cent of alcohol and the manufacturer claimed that no more was used than was needed as a solvent and preservative, and that attempts to substitute another preservative had proved futile. Then came national prohibition and now Wine of Cardui contains 10 per cent of alcohol and its preservative powers have been fortified by the addition of benzoates (Jour. A. M. A., Feb. 28, 1920, p. 607).

NEW BOOKS

Under this heading books received by the Journal will be acknowledged. Publishers are advised that this shall constitute return for such publications as they may submit. Obviously all publications sent us cannot be given space for review, but from time to time books received, of possible interest to Oklahoma physicians, will be reviewed.

MODERN SURGERY.

By J. Chalmers DaCosta, M. D., Samuel D. Gross, Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. Eighth Edition, Revised, Enlarged and Reset. Octavo of 1697 pages, with 1177 illustrations, some of them in color. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, \$8.00 net.


The author of this remarkable successor to its many successful predecessors, noting the difficulties under which revision was accomplished, says: "Parts of it were written at odd times and in strange places. The war was raging and all the forces of the world seemed devoted to slaughter. The routine of peace times was but a faded memory. Millions were dead and it seemed more millions were to die. Civilization trembled in the balance. Mercy, Christianity, Liberty, Law, Humanity were threatened with annihilation. . . . these elements conspired to settle upon me as a vast obsession full of sorrow and of heartbreak, paralyzing thought of other things. . . ." His invaluable associates, scattered over the earth on the call of arms, the author revised and wrote much of his material on board a United States Naval Transport. Despite difficulties incident to such disturbances, his work has not suffered, but stimulated by spirit which accomplishes a task under stress, he presents a work brought up to the moment. The problems and lessons of war are presented in a multiplicity of settled rules and improvements on the old order, insofar as sober judgment warrants, but realizing that much of the literature on the newer matters has yet to be weighed, conservatism dictates incorporation of the sane, proven advances. Newer methods of preventing tetanus are included, several pages being given to this very fatal, if neglected in the preliminary care, disease. Treatment of infections, compound fractures, head and chest injuries, being of first importance are accorded relatively wide discussion.

One of Oklahoma's thorough student surgeons, asked if he had DaCosta's Surgery, replied: "Yes; it is my most valued surgical guide and most consulted book. Hardly a page is free from marginal notes and references of practical use to me." This sufficiently expresses the practicability of the work, as well as saying all that may be as to its intrinsic worth to the busy man.

OFFICERS OF COUNTY SOCIETIES, 1920

County	President	Secretary
Adair	S. R. Evans, Stilwell	Jos. A. Patton, Stilwell
Alfalfa		
Atoka		C. C. Gardner, Atoka
Beaver		
Beckham		
Blaine		
Bryan	A. J. Wells, Calera	J. A. Norris, Okeene
Caddo	Geo. C. Campbell, Anadarko	J. L. Austin, Durant
Canadian		Chas. R. Hume, Anadarko
Carter	R. O. Early, Ardmore	J. T. Phelps, E. Reno
Choctaw	G. E. Harris, Hugo	Robt. H. Henry, Ardmore
Cleveland		Reed Wolfe, Hugo
Cherokee	W. G. Blake, Tahlequah	Gayfree Ellison
Comanche	Jackson Brashear, Lawton	P. H. Medearis, Tahlequah
Coal		E. B. Mitchell, Lawton
Cotton		W. T. Blount, Tupelo
Craig	Louis Bagby, Vinita	R. L. Mitchell, Vinita
Creek		H. S. Garland, Sapulpa
Custer	K. D. Gossam, Custer City	O. H. Parker, Custer City
Dewey		
Ellis		
Garfield		L. W. Cotton, Enid
Garvin	J. R. Callaway, Pauls Valley	N. H. Lindsey, Pauls Valley
Grady	H. C. Autle, Chickasha	U. C. Boon, Chickasha
Grant		
Greer	G. W. Wiley, Granite	J. B. Hollis, Mangum
Harmon	W. G. Husband, Hollis	Ray L. Pendergraft, Hollis
Haskell	S. E. Mitchell, Stigler	R. F. Terrell, Stigler
Hughes		
Jackson	E. S. Crow, Olustee	J. B. Hix, Altus
Jefferson	W. M. Browning, Waurika	J. I. Derr, Waurika
Johnston		
Kay	J. C. Hawkus, Blackwell	I. D. Walker, Blackwell
Kingfisher	C. O. Gose, Hennessey	H. O. Meredith, Kingfisher
Kiowa	J. A. Land, Lonewolf	J. M. Bonham, Hobart
Latimer	G. A. Kilpatrick, Wilburton	J. F. McArthur, Wilburton
Le Flore	S. C. Dean, Howe	Harrell Hardy, Poteau
Lincoln	A. M. Marshall, Chandler	C. M. Morgan, Chandler
Logan		E. O. Barker, Guthrie
Love		
Mayes		J. L. Adams, Pryor
Major		
Marshall		
McClain	B. H. Slover, Blanchard	O. O. Dawson, Wayne
McCurtain		
McIntosh	J. N. Shaunty, Eufaula	W. A. Tolleson, Eufaula
Murray	J. H. Simmons, Sulphur	W. H. Powell, Sulphur
Muskogee	P. P. Neshitt, Muskogee	A. L. Stocks, Muskogee
Noble		B. A. Owen, Perry
Nowata		J. R. Collins, Nowata
Okfuskee		H. A. May, Okemah
Oklahoma	Horace Reed, Oklahoma City	Toum Lowry, Oklahoma City
Okmulgee	J. Lee Riley, Henryetta	W. B. Figg, Okmulgee
Ottawa	G. P. McNaughton, Miami	Fred E. Deal, Miami
Osage	David A. Yates, Avant	Benj. Skinner, Pawhuska
Pawnee		E. T. Robinson, Cleveland
Payne	H. C. Manning, Cushing	J. B. Murphy, Stillwater
Pittsburgh	T. T. Norris, Crowder	F. L. Watson, McAlester
Pottawatomie	G. S. Baxter, Shawnee	O. L. Edwards, Shawnee
Pontotoc	L. M. Overton, Fitzhugh	J. G. Breco, Ada
Pushmataha		E. Guinn, Antlers
Rogers		
Roger Mills		
Seminole		
Sequoyah		W. L. Knight, Wewoka
Stephens	C. M. Harrison, Comanche	J. W. Nieweg, Duncan
Texas	W. H. Langston, Guymon	R. B. Hayes, Guymon
Tulsa	G. A. Wall, Tulsa	A. W. Pigford, Tulsa
Tillman		
Wagoner	C. E. Hayward, Wagoner	C. E. Martin, Wagoner
Washita		J. W. Kerley, Cordell
Washington	F. R. Sutton, Bartlesville	J. G. Smith, Bartlesville
Woods		
Woodward	R. A. Workmau, Woodward	C. W. Tedrowe, Woodward

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INSANITY BY CONTAGION.*

JOHN W. DUKE, M. D.

GUTHRIE, OKLAHOMA

Definition.

Contagion, from the Latin, *contagio*. The communication of disease by mediate or immediate contact or by effluvia.

Infection, from Latin, *infectio*. The communication of disease from one person to another, whether by effluvia or by contact, mediate or immediate; also the implantation of disease from without.

In considering insanity by contagion we shall refer to that class of patients who impose their delusions upon large numbers of other and apparently sound persons. In a similar way hysteria is contagious, and there are numerous instances afforded by history of epidemics of hysteria occurring in Europe during and subsequent to the middle ages. Often mysticism and hysteria are commingled in these epidemics, which still occur in Russia in our own day. Physicians often of serve the contagiousness of hysteria. Oftentimes epidemics appear in schools. A little girl is attacked by hysteria and soon others, perhaps a large number, are similarly affected. But contagion presents itself in a more positive form; though not common, it occurs with sufficient frequency to demand a brief consideration.

We will first consider cases in which a single delusive idea or notion is imposed by a patient on a person who is well. Second, cases in which a series of delusions, systematized in character, are imposed. Third, instances in which two or more persons become insane simultaneously. Fourth, cases in which one insane person imposes his delusions upon another insane person. Fifth, cases in which there is a transmission of states of depression and excitement; and finally, cases in which a relative or nurse in close contact with an insane patient becomes insane without acquiring the mental symptoms of the patient. Therefore, the subject is more complex than it at first appears.

Two important factors are at work. First, there is always a predisposition on the part of the person who is the subject of the contagion. Such predisposition is usually assured by the fact that in by far the larger number of instances both the original patient and the one secondarily affected are members of the same family; indeed, frequently they are sisters or brothers, and so forth. They are victims of the same heredity and commonly the same environment. Second, it is necessary that the person who is the victim of the contagion should present a certain degree

*Read in Section on General Medicine, Annual Meeting, Muskogee, May, 1919.

of vulnerability to suggestion. Such a vulnerability is part and parcel of the heredity.

Usually the secondary patient is weaker and less forceful than the original patient, seldom offering any resistance to the ideas imposed. When the patients are not related, the second one is always feeble and degenerate. Consequently, it can safely be maintained that insanity cannot be imposed by contagion upon a perfectly sound mind.

The character of the contagion varies greatly. We have many of those milder instances in which merely a delusive idea or attitude is transmitted to the second person, but in which the facts would hardly justify a diagnosis of insanity by communication or contagion. As an illustration: A workman or clerk in the early period of the depressive phase of a paranoia returns to his home in the evenings complaining of unfair treatment on the part of his employer, or of abuse on the part of his fellow employees. At first he has the active support of his wife and children, and it is only later, after the mental disease becomes active and pronounced that the family ceases to share the patient's attitude. A far more serious instance is that in which a friend, frequently not a relative, acquires the notion that a patient is really not insane and has been improperly committed. For example, a woman hears that a friend has been sent to an asylum, visits the friend, becomes convinced that the friend is not insane, has been greatly abused, is the victim of ill treatment and conspiracy, and has been wrongfully committed. Sometimes, however, the insanity is so pronounced as to admit of no possible doubt. In such cases the fact of insanity may be admitted reluctantly by the friend, but the belief in ill treatment and abuse by relatives, doctors and asylum attendants may be adhered to. Under such circumstances it is well known that endless litigation, trouble, annoyance and attempts at rescue have to be contended with by those interested in the welfare of the patient. If such instances are not cases of insanity by contagion, they are instances at least in which the attitude of the patients have been accepted by the friends.

Instances of true contagion are met with in cases in which groups of delusional ideas, systematized in character, are transmitted from a patient to a person previously well. In almost every instance the patients are relatives; most frequently they are sisters, or mother and daughter, who have lived together in close intimacy. Usually the form of insanity presented by the primary patient is that of simple delusional insanity. Quite commonly the delusions are those of persecution by neighbors, by the authorities, by the landlord. There may also be expansive ideas, although they are infrequent. The second patient sooner or later accepts the delusions of the sister or mother and there is a remarkable uniformity in their general conduct and attitude.

In the asylums one insane patient often imposes his delusions upon another insane patient. The delusions communicated are almost always paranoid. The more forceful imposes his ideas upon his weaker neighbor. Usually after the second patient has been separated from the first, the communicated delusions disappear. Not infrequently a melancholia patient communicates his depression to another patient, usually a relative, occasionally they are husband and wife. Maniacal outbreaks are at times communicated. This is especially true if the first patient is suffering from religious exaltation.

It is hardly necessary to mention the Divine Healers, who rise in every age and in every country, nor speak of those who actually found new faiths and creeds. Isreal Zangwill, in his "Dreamers of the Ghetto," portrays the history of Sabbatai Sebi, who was a typical mystic, and who after a long period of depression and preparation finally announced himself as the Christ. He performed miracles, and was accepted by many Jews and Gentiles as the Messiah.

It is not necessary to go back to the middle ages or to Europe to find examples of the pernicious influences of mystic paranoia or insanity by contagion, nor to our Salem witchcraft. It is here in our own country with its boasted civilization. A

woman is allowed to die in childbirth, a child of diphtheria, a man to lose his eyesight, a contagious disease to become an epidemic, all because the relatives of the patient, or the patient's friends are followers of the cult which denies the very existence of disease.

Paronia when communicated is usually of the simple nonhallucinatory form. If hallucinations are present they, as a rule, are not transmitted to the second person, although their reality seems to be accepted by the latter.

As a general thing such cases result in a commitment only when the conduct of the two persons has in some outspoken way attracted the attention of the neighbors or of the authorities. Often they live undisturbed and separated from the world for many years. For a long time they are known only for their peculiarities, aloofness, and isolation; it is usually when they begin making absurd complaints and charges against neighbors to the police that they come under observation. These cases are quite rare. The essayist has only seen a few cases of this character.

Occasionally the insanity makes its appearance simultaneously; it may be two sisters or it may be two brothers, at least it is impossible to fix upon one or the other as the original patient. Close living together and isolation seems to be a necessary part of the etiology. In a remarkable instance reported by Dercum, two twin brothers became convinced in early life that the world was wicked and insincere, that modern civilization was altogether wrong, and that men could not be good and honest unless they returned to primitive form of life. They, therefore, abandoned a prosperous hardware business in which they had been engaged as young men, retired to a farm where they led lives of great eccentricity; they wore almost no clothing, working about the farm in a condition of almost complete nudity; they allowed the hair and beard to grow without hindrance; they lived upon raw and boiled vegetables, and led lives of great seclusion, although when they met strangers they did not hesitate to expound their views. Both lived to a rather advanced age; one of them during a period of depression attempted suicide, and though he failed, the attempt was not repeated.

Persons who nurse the insane seldom become insane themselves, notwithstanding the public belief to the contrary. It is very seldom to observe a mental breakdown in an asylum nurse or attendant, but it is not infrequent for a person to break down while nursing a patient who happens to be a mother or sister. The heredity, environment, loss of sleep and worry, all make it impossible for the nurse to bear, and the break down occurs.

The prognosis of this disease depends upon the nature and degree of the contamination. The delusions of the second patient never secure the same firm hold as upon the primary patient. In a majority of these cases the second patient improves and finally recovers, when isolation is complete. The administration of drugs to these patients does no good; separation and isolation is the only treatment.

DISCUSSION.

Dr. S. S. Glasscock, Kansas City, Mo.: I was very much interested in the doctor's paper. When I first read the title on the program I thought he was drawing on his imagination, "Insanity by Contagion," it seems to me that it would be better to say by "imitation." One case of hysteria always produces other cases in the community. Chorea is another instance. If one child has chorea, other children will have it. I might go on for an indefinite length of time telling of the things they imitate. In neurotic families one person becomes insane and from association other members become insane. Most all mankind have delusions and sometime in our lives we have strange notions, strange sensations. We know they have no significance, so we dismiss them from our minds, but just as soon as we cannot dismiss them from our minds we become insane. I happen to run a sanitarium. All these men who run sanitariums, if we keep at it long enough, should become insane. I sometimes feel peculiar; Dr. Duke sometimes acts peculiar, we all do. We have ideas so grand and glorious that they exalt us to

the skies; they make us see flowers bloom, magnolias soar to the skies, and finally we drift to the point where we dream of the associations we used to have. We have delusions, sometimes called second childhood. We dream of the boys and girls we used to know.

Dr. J. A. Hatchett, El Reno: I was very much interested in the paper. I think we as physicians study the body too much and the mind too little. I think we should more fully realize that man is composed of a body and mind and we should pay more regard to psychological matters. When the doctor was reading his paper I called to mind a most remarkable incident of many years ago. I was called to see a young lady who was reported to have meningitis. I went to the humble home and saw the girl. After studying her awhile I was sure she had not meningitis, and strange to say, in a few days a second sister had the same disease and a few days later the third sister had the same disease. I was called back but we could not isolate the cases. The point I emphasize is this; you can have a family of several children and if one has neurotic symptoms she should be isolated. I am sure that should be done.

Dr. C. E. Hayworth, Wagoner: I would like to suggest, Mr. Chairman, to the doctors a little voice culture. I am getting along in years and I do not hear very well. I have enjoyed these papers very much this morning. I always enjoy attending medical societies and I mean this in all kindness. I wish the doctors would talk a little louder.

Dr. Duke, closing: Mr. Chairman and gentlemen: I agree with the doctor in regard to voice elevation. It occurs to me this is a miserable fall for voice elevation. Now in regard to this paper. I chose it with considerable deliberation. When you take Webster, for instance, and look up the word "Contagion" you will find it means by contact, and so I chose that word for the title of this paper. In order to impress what I had to say about it and to bring out the point that although two individuals did come in close contact with each other, and one was perhaps sound of mind, there would be no danger about this contact, but if one was a neurotic, they would be in great danger of carrying on the delusion. All men and all women, all human beings have delusions at times, but when they are shown the fallacy of this belief, that it is false, they immediately abandon that idea. You might illustrate in this way; every four years we have a presidential election in this country and everyone of these candidates undoubtedly believe they will be president and labor under that delusion for six months, but when he is not elected he abandons the idea. If he did not he would be suffering by a fixed delusion.

During my hospital service I have come in contact with a great many bright minds that were insane. I remember one particularly, a physician who distinguished himself before he became insane. In 1846 he was invited by the Appleton Company to write a series of articles on scientific subjects. He finally became so unbearable that it was necessary to confine him to the asylum. He was in there from 1846 until 1905. He was nearly 160 years old when he died. He never lost his analytical mind, but when you started him on himself he was the most insane man you ever saw. He wrote an article on etiology and sent this to Washington and when Professor Benj. Langly read the article he became so excited and worked up that he came up and wanted to redress the wrongs of this man. He wanted him liberated immediately. After talking to him he still thought he should be liberated. I thought I would show the professor, and I told the man to tell the professor about when the light was lit and peeped through the keyhole and showed he had no brains, and he got so excited and jumped up, nearly frightening the professor to death, he hurried back to Washington.

You may take one insane patient who is making a great disturbance and take him into another room where they are quiet, and in a short time you will have all you can do to handle them. They will all be hallooing. If one patient tells you he has been unable to sleep because of a headache, the next patient will have the

same. You can visit an epileptic ward and if one has a fit, more will have fits. They seem to have a sympathy in common. If one feels badly, the other feels badly; if one feels good, the other feels good. Not very long ago I was called in the country to see a young woman in consultation with one of my brothers, and found the young lady was suffering from a severe attack of hysteria, and I advised that she be sent away, but they kept the girl at home. Two weeks later I went back and two of her sisters were in the same condition. They then decided it was best to separate them a few weeks. If you will look it up you will find heredity and environment are the most important factors in insanity. If you will just consider that the mother not only gives the child heredity but environment for the first six years of its life. There is not one of you today who does not owe all that is good in your souls and body to your mother, and the environment of your childhood and those unfortunates who failed in life owe a great deal of their failure to the inefficiency of their mothers.

DEMENTIA PRECOX AND MANIC-DEPRESSIVE INSANITY CLINICALLY CONTRASTED.

ANTONIO D. YOUNG, M. D.

OKLAHOMA CITY, OKLA.

Dementia precox and manic-depressive insanity comprise most of the cases of so-called functional insanity, and it is the intention to discuss these two classes, whose clinical manifestations are almost wholly mental, to the exclusion of those that are known to depend on organic disease of the brain, such as general paresis, or brain tumor, or insanity associated with epilepsy, which have neurological and other physical symptoms that aid in diagnosis.

Mental symptoms are the physical expressions of ideas of the person affected as shown in conduct, or are spoken thoughts revealing the patient's attitude toward the persons and things with which he comes in contact, or imagines he does. For the purpose of description, mental symptoms must be given names as are physical ones. In physical examinations one speaks of such things as dulness, tenderness, rigidity, and the like, the meaning of which is well known. However, the nomenclature of psychiatry perhaps may not be so generally understood. It seems proper, therefore, to discuss in detail these psychiatric terms.

DEMENTIA PRECOX.

Those in whom a physical disease is developing have what are called prodromal symptoms which are really part of the disease, but occur before the diagnosis is apparent. Likewise, the dementia precox patient, in the very earliest stage of the abnormal condition has as a symptom a mental conflict which produces what is commonly called worry. As an example, a soldier, who, for some reason, physical or otherwise, is not performing his duties quite so well as the others, who is conscientious and wishes to be as good as the best, allows the fact to prey excessively upon his mind. If he continues to brood upon the subject, it is only natural for him to look about for a cause for his seeming delinquency, and he is very apt to come to the conclusion that it is through his own fault he has failed. In other words, he believes he is not the man he should be and is extremely worried because he has done something for which he must suffer disastrous consequences. Frequently the penalty is to fall upon relatives, a sort of vicarious chastisement. It is the effort to adjust himself to this unusual and almost intolerable mental state that constitutes the symptom spoken of as the "conflict," and which is the source from whence come most of the other abnormal phenomena seen in this disease.

It must be understood this is only an example of a conflict. In different persons, it may embrace religious, moral or other ideas, according to the teachings

formerly received, the home life or other environmental circumstances. In the army the conflict is practically always colored by military life. Now with this ever-present turmoil is it any wonder the patient cannot sleep, that he does not realize the necessity for rest, that instead he wanders aimlessly about the fields at night, or tosses uneasily upon his bed? *Insomnia* is an early and persistent symptom and it is remarkable how little some of these patients sleep.

One so interested in his own troubles naturally is not concerned very much with anything else, becoming *absorbed in his own content of thought*, which is another of the cardinal symptoms of dementia precox. Being so self centered, he shows marked lack of interest in his surroundings, sitting, standing, or lying with his eyes staring vacantly ahead, giving *no voluntary attention* to anything save his own thoughts. Thus the precox patient withdraws as it were within his shell, permitting the world to pass unnoticed.

It can be readily understood that a patient so deeply absorbed cannot at times disengage his thoughts sufficiently to talk, to protrude his tongue when told to do so, nor to relax his inhibition when at stool as to permit the emptying of his bladder and rectum, yet perhaps do this soon after returning to bed. Nor can he disengage his thoughts to such extent as will allow him to become sufficiently interested to bring food to his mouth when it is placed before him. This characteristic of dementia precox is called *negativism* and is quite a constant symptom of the disease. Likewise is *catatonia*, that condition in which the patient remains for hours in whatever position he happens to be placed because his thoughts are so centered within himself that he takes no cognizance of external things, not even his own voluntary muscles. At times the voluntary muscles take on a certain degree of wax-like rigidity and his extremities for some time retain the position arranged by another person. An uplifted arm, for instance, remaining in that position until brought down by gravity.

In every normal person there are short intervals when the mind goes "wool gathering" and he suddenly awakes and realizes there has been a little break in his chain of thought. This usually happens when one is mentally absorbed in some subject and is spoken of as "absent mindedness." At such times one's name may be spoken and the voice passes by unheard. Now if this momentary mental lapse be extended to cover a period of several minutes, and if it should occur even in the midst of conversation or entertainment, as it frequently does in dementia precox, we have the well-known symptom of *blocking of thought*. Merely absent mindedness, greatly exaggerated.

The disease may progress further and life become almost intolerable because of the continual mental conflict, the inability to think coherently, the blocking, and the remorse for having done wrong. The vague feeling of ill behavior in the past gradually assumes a concrete form and the precox names and believes he has committed a definite crime, such as the "unpardonable sin," "talked against the government," or complained of the "poor food served in the camp." These self-accusatory delusions are very common in precox patients and are sure to exist, perhaps in modified and attenuated form only, in every case.

As living becomes more and more intolerable some are driven to suicide, but others as a sort of palliative measure shift the responsibility, as it were, by means of *hallucination of hearing*, in which voices tell them it is not their fault or that they are some other person and are simply occupying another's body. Sometimes they are the President or the Emperor and thus should be allowed to do as they please and that whatever they do is, therefore, correct and proper. This circumstance brings to light the brightest star in the constellation of precox symptoms; namely, *the splitting of the personality* or technically *schizophrenia*. It is difficult to understand how one who thinks he is all powerful and expects to destroy the world in 1920 can at the same moment plead in quite a natural way for his release from the hospital. However difficult it is to understand, patients do this very thing and evidently carry in their minds at the same time two entirely different and opposed ideas.

Because of his delusions the precoc patient develops many minor symptoms, such as *mannerisms*. A peculiar form of salute continually and monotonously repeated was noted in one patient and may have developed as a result of reprimand for failing to properly observe military courtesy. Many patients continually carry on a conversation with unseen persons and as they are continually confusing the real and the imaginary, the flow of words seem to be incoherent but by careful study can sometimes be translated into intelligible sentences.

Case 1. W. E. B., a soldier, aged 27. No history of previous mental derangement. Family history negative. While with his company began to worry; could not tell why nor what about. His officers noticed his abstraction and seeming inattention at drill. When it was reported that he went to the latrine at two o'clock in the morning, with his razor, prepared to shave but came away without doing so, it was decided to send him to the hospital for observation. After admission, he sat or stood about, not speaking unless spoken to, paying no attention to happenings about the ward. He did not read nor play games. When asked the cause of his worry, stated, "I have done something awful," but could not be induced to tell what it was. Soon he began to lose all activity, lying in bed in one position for hours, allowing his bladder and rectum to remain unemptied. His fingers, hands and arms would remain in the position arranged by the examiner. This state continued for ten days, the little food partaken being eaten only after persistent persuasion on the part of the nurse. He then became much agitated, shouted, "I saw the devil," "I am the kaiser," attempted to strangle himself and was placed in restraint. After a few days, he again resumed the lethargic state but very slowly improved so that at the end of four months he was sufficiently recovered to be removed to his home. However, he said he still had difficulty in thinking.

Case 2. J. P., a young soldier of Italian birth. For a few days before his seemingly sudden outbreak of mental disturbance, it was observed he avoided companionship, contrary to his former custom, but his change in conduct was not sufficient to cause much comment. While on guard duty one night he left his post, went to a nearby farm house and demanded food. Upon being refused, he went to another farm house and engaged in a physical encounter with the farmer. The military police were notified and he was brought to the hospital. While in the hospital he remained in his room, took no part in ward activities or amusements; occasionally broke windows without apparent purpose; struck other patients, without warning, and fought the attendants when they attempted to quiet him. He escaped one night and walked to the other end of camp in his bath robe. In telling his reasons for leaving while on guard, he said he did not know why he did so, that "something" compelled him to do so; that he was not treated right by the officers and men of his company. His condition remained unchanged for four months. There was no history of previous attacks.

Case 3. W. H., a university graduate with a Ph. D. degree. He voluntarily reported to the neuro-psychiatric service, saying he was "going to have a nervous breakdown, like he had once before." Three years ago, he said he felt very depressed, thought he had been very sinful, spent most of the day on his knees praying and on a few occasions heard accusing voices. He had no desire to associate with other persons; had difficulty in thinking and remained seated in his room for days at a time. After six months he gradually improved and was able to resume his school work at the end of nine months. He remained well for three years and felt the old symptoms returning after eight months service in the army. He was advised to discontinue his work, seek enjoyable recreation and report every few days if he felt he was not improving. Ten days later he asked to be admitted to the psychiatric wards. During his stay there his symptoms gradually grew worse for three weeks. He was mentally depressed, felt he had led a very sinful life, spent most of the time praying, could sleep but very little, but denied having hallucinations. In six weeks he had fully recovered and was sent to his home.

Case 4. G. M., a negro. He stated that two years before he entered the army

there was a period of several months in which, without reason or purpose, and in spite of his best efforts to the contrary, he mistreated his wife, constantly scolding her and on one occasion threatening her with a knife. He regretted very much, he says, his actions at this time, and cannot account for them, as he loved her and their relations had always been happy. He was then employed as house man in an apartment dwelling and one of his duties was to run the elevator. It was with great difficulty he refrained from attempting physical harm to the residents, as, when they came in to take the elevator, the thought that he must murder them immediately came into his mind. He thinks no one was aware of his mental condition. He recovered and remained well until he had been a soldier three months when he became abstracted, remained much alone, was inattentive to his duties and was sent to the hospital. While reciting his history, he frequently stopped talking, stared blankly for a few moments, then resumed his story. He stated that he heard voices while lying awake in bed. He was quiet, well behaved and assisted with ward work. He gradually became less abstracted, his hallucinations disappeared and he was discharged cured.

MANIC-DEPRESSIVE INSANITY.

The life history of a person with manic-depressive insanity shows periods of depression followed by periods of excitement with perhaps normal periods intervening. I do not mean to say that they occur always in this order. Either phase may come first or only one stage be present in the whole life of a person and the attack may last a few weeks or many years. Again the depression and exaltation may be so light as to really not suggest the idea that the patient is insane at all but subject to "fits of blues" or he seems to be feeling unusually good (Euphoria).

In the manic-depressive group are included melancholia, periodic insanity, circular insanity and acute mania of the older classification and perhaps many cases catalogued as toxic or exhaustion psychoses belong in this category. The cardinal symptoms of the manic phase are: (1) Flight of ideas, (2) Psychomotor hyperactivity, (3) Emotional exaltation. Ideas crowd so fast upon one another in the patient's mind that he cannot talk fast enough to tell them. A mere sound or word will start a flight of ideas, each suggested by the one preceding, until the patient has talked for many moments as fast as he can without hesitation or break; thus, "Of what does the word 'flag' make you think? The stars and stripes. It is at the head of our army. We have three million men under arms. Some people's arms are longer than others, but all have sleeves. I was laughing in my sleeve at a joke I heard. Did you ever hear Harry Lauder? I can talk louder if you can not hear me. You hear with your ears but you see with your eyes. Sometimes you use a capital I. President Wilson lives at the Capitol at Washington. He was the first president and never told a lie."

This is an example of the flight of ideas and is a good illustration of what is meant and serves better than any description I could give. Likewise the motor and mental processes are speeded up so that the patient is ever on the move, writing, talking, moving about, ever active. A choir leader decided it was best to call his choir together for rehearsal one evening. It immediately occurred to him that just after dinner would be a good time, but after calling a few of his members, he changed his mind and thought he would have them in to dinner to make sure all would be on time, so began to telephone all over again. After talking to two or three he decided to have the pastor but was unable to reach him. In the meantime, however he had his dinner coat brought out but almost immediately countermanded his request and decided to use another coat. Since he could not find the pastor, he decided to postpone the rehearsal and started telephoning again, arranging for a theatre party. In a few days, it was evident he was mentally deranged.

Patients in the manic phase are feeling fine, their spirits are at the highest level, everything is rosy, all their acquaintances are splendid and fast friends, and they write loving, if foolish and disjointed letters to their feminine acquaintances. This is technically known as exaltation of mood.

The depressed phase presents an exactly opposite picture. Here is found psychomotor hypo-activity, retardation of thought and depression. The patient's movements are all slow, he thinks slowly, talks slowly but in contrast to the indifference of preeox, he looks about and the expression of his eyes shows his interest in the surroundings. His attention is readily attracted and if he can carry on a conversation at all, explains that his thoughts are retarded, but asks about current events, looks at newspapers and magazines and gives other evidence of mental activity.

He may be so retarded that he cannot reach the toilet in time to prevent an accident, but perfectly realizes his plight and expresses chagrin over it. His mood is depressed and his expression remains unchanged since his retardation prevents a display of emotions. However, this is not due to the indifference but to inability to promptly use his muscles. It is best explained by a marked increase of inhibition that prevents the ready response to the will.

The manic-depressive patient also has delusions, mostly referring to his own body. One patient told me that in 1915 the surgeon turned his liver over and performed an appendectomy without leaving a scar. Sometimes they have ideas of reference, thinking occurrences outside their own sphere refer to them. A young man in my service showed me a picture of a red cross nurse on a printed post card, saying she was his sweetheart and would write to him. Another said the food he ate did not nourish him as his enemies drew it out through the abdominal wall by a suction apparatus.

Case 1. G. S., a soldier, aged 28. So far as could be ascertained, his medical history, prior to his entrance into the military service, has no bearing on his present mental condition, there being no previous attacks. In the routine examination a positive Wassermann was obtained but he consistently denied any venereal infection. He had been in the army four months when, to use his own words, he "got religion," and his efforts to let every one in the barracks know it, caused his removal to the base hospital. He told the examiner he was sent to the hospital because he would not let the others sleep. Upon his admission, it became necessary to place him in restraint for a few days, as he insisted on disarranging his bed, kicking the wall, breaking the window panes, spitting upon the floor, tearing down the shades, and talking continually, whether or not he was alone. It was noticed he observed every one who came in the room, addressing each familiarly and wishing to shake hands. Any little noise, a chance word, or the sight of a new object would start a different trend to his flow of words. He was always alert, admitted at times he was talking foolishly; stated he felt fine, was glad he had "got religion" and wished all to share in his joy. He also said he had felt it "coming on" for several days. At one time while in the straight jacket, repeatedly imitated the sound of a locomotive and that of a barking dog. At other times singing and shouting.

The following monologue is an example of his flow of words: "It is easy to cut with a knife and sharpen a knife with a strap. It is just as easy to go to Columbus, Ohio, as it is to see a one-eyed man in a barber shop. It is just as easy to count one, two, three, as it is to study an arithmetic, or to put milk into a silo. We had a muley cow that had three tits—she was as easy to milk as any cow."

At the end of a month this patient was apparently normal.

Case 2. G. V., a university graduate and an officer in the army. He had had eighteen months service in the United States. While in his sophomore year at college he became depressed and his parents kept him at home during one semester. His father states that his symptoms were essentially that of mental depression; he thought slowly and was very much retarded in his physical movements. On one occasion, at least, he attempted suicide. However, he was not sent to an institution and in a few months returned to school cured. He remained normal through his course in the officers' training camp and through eighteen months of service. Then he began to be wakeful, sleeping well until two or three o'clock when he would

arise, begin working sometimes at menial tasks, as cleaning the latrine, policing the premises and such like. When he attempted to loosen a G. I. can frozen in the ice, by shooting a circle of holes around it, he was sent to the hospital. He told the examiner he thought this the most practical way to remove the can and when asked why he carried two guns, said "to be ready for any emergency, for I believe in efficiency." Turning to another patient, remarked, "Hello, Joe—boy you must get your hair cut," rubbing the boy's head, "you cannot be an efficient soldier with long hair—let's clean it up." The next morning he broke out a pane of glass, saying, "it is more efficient than washing it as it saves time." He scrubbed his room walls, the latrine and his slippers, covering the soles with soap, remarking, "How do they look, Captain?" He drove nails in the walls, pulled the plaster away; broke hinges off the door and was placed in restraint parts of two days. His excitement subsided and in ten days, was sufficiently recovered to be taken home.

RECAPITULATION.

The main symptom of a fully developed case of dementia precox is schizophrenia which follows the mental conflict. The conflict and the schizophrenia form the basis upon which is built the delusion (usually self accusatory), the hallucinations, the stereotypy, the mannerisms, the negativism and the catatonias.

The main symptoms of the manic phase of manic-depressive psychosis are psycho-motor hyper-activity, emotional exaltation and flight of ideas; of the depressed phase, psycho-motor hypo-activity, emotional depression and retardation of thought.

COMPLETE CLOSURE OF URINARY BLADDER AFTER COAGULATION OF TUMORS.

The essential features of the method employed by Gustav Kolischer and J. S. Eisenstaedt, Chicago (*Journal A. M. A.*, March 20, 1920), are mattress sutures of the bladder wall with inversion of the mucosa edges, which union is re-enforced by whipping over a simple continuous suture, and thorough subfascial drainage accomplished by placing a narrow rubber tube under the fascia of the recti and parallel to the incision. The ends of this tube are brought out at each end of the skin wound. The bladder is opened by suprapubic cystotomy in the usual manner. The seat of the tumor is freely exposed by retractors made of fiber or hard rubber, and the coagulation is thoroughly accomplished by the galvanocautery or by diathermy. The bladder and abdominal wall are then closed completely, except for the subfascial drainage. The patient, after operation, urinates spontaneously or is catheterized at regular intervals. A permanent catheter is not used because of the danger of urethritis, vesical irritation and ascending infection. If cystitis occasioning marked or moderate symptoms is present, 20 per cent argyrol solution, is instilled into the bladder twice a day. The subfascial drainage tube is removed after twenty-four hours. The bladder incision and abdominal wound are usually entirely healed in seven or eight days.

RESERVE YOUR HOTEL ROOM NOW. Physicians contemplating attendance at the annual meeting Oklahoma City May 18-20, should not fail to make **early** hotel reservations. If this precaution is neglected it will be practically impossible to secure accommodations at the last moment. It should not be forgotten that this year the clinics will likely begin Monday, May 18th, two full days before the meeting convenes.

C. A. Thompson, Secretary-Treasurer.

DIAGNOSIS OF THE PATHOLOGICAL HEART.*

BENJAMIN H. BROWN, M. D.

MUSKOGEE, OKLAHOMA

The large majority of the human race has been, is, or will be obsessed with the idea of being possessors of weak or diseased hearts. Even those who have no set convictions on the matter frequently hold under suspicion on general principles the chief organ of circulation, and themselves in a receptive mood for any aspersions directed toward it. Most frequently such convictions are arrived at by the perusal of quack literature or by the misinterpretation of normal functions or of symptoms, frequently slight, arising from other than cardiac causes. It is not one of the least pleasures of the conscientious physician to be able to reassure most of this class, and, perhaps, to remove an incubus that has been preying upon their minds.

On the other hand such morbid apprehensions too often have their origin from the statement of a physician. Sometimes, no doubt, a designing quack, for greed of gain, plants the seed of fear in the patient's mind, but far more frequently the doctor has made the mistake of interpreting unimportant signs or symptoms as indicative of organic disease. Not always, by any means, is the mistake inexcusable. Through no fault of the physician histories are sometimes incomplete or misleading; physical findings may be hard to interpret; diagnosis is difficult.

The symptoms that send people to the doctor for heart examination nearly always fall into one of three classes; those attributable to palpitation, such as irregularities of rhythm, tachycardia, and undue consciousness of heart action; those due to pressure or reflex action from the stomach and neighboring viscera, such as a feeling of fullness or oppression; and those of a painful nature. The first two classes of symptoms are frequently associated, so that it is difficult to distinguish the purely nervous from the purely mechanical, or to determine the relative proportion of each factor.

As a matter of fact, none of the above symptoms is usually the first noticed in organic disease of the heart. It is true that palpitation may initiate the picture, but as a rule it comes later, and, on the other hand, the irregularity of organic disease may exist for a long time without the patient being aware of an arrhythmia.

Pain is very seldom an early factor in the symptomatology of cardiac disease. Usually the pains complained of are those referred, it is to be feared rather vaguely, to pleurodynia or intercostal neuralgia. These pains are very common, sometimes severe, usually accompanying the respiratory effort, and they have a remarkable predilection for the left side of the front of the chest. It is to be suspected that we still have something to learn as to the etiology of such pains. Occasionally, it is true, we may discover a friction rub, usually with fever or other sign of disease, but, as a rule, there is neither the tenderness of a neuritis, nor other tangible evidence of abnormality. According to Richard Cabot (Mass. General Hospital Reports), pain referable to the heart is found in only four kinds of cardiac disease. These are myocarditis, syphilitic aortitis, aneurysm, and angina pectoris. To these he might have added pericarditis, which may undoubtedly give rise to precordial pain, but it is doubtless true that pain is a negligible factor in diseases of the heart other than those just mentioned.

Just as the average person who thinks he has heart disease has it not, so the one whose heart is actually unreliable is ordinarily treated to an unpleasant surprise when he is first told the news. Such a one most commonly comes to the office with a history of dyspnea or easily tiring on exertion, and is prone to suspect the lungs above any other organs; or has noticed a swelling of the feet; usually, however, in conjunction with other symptoms, and fears "dropsy"; or complains of insomnia or of nervousness. Or he may seek relief for dyspepsia or polyuria, or other symptoms of passive congestion or hypertension. Nearly always, however, alone,

*Read in Section on General Medicine, Annual Meeting, Muskogee, May, 1919.

or in combination, stands out the complaint of shortness of breath, or lack of endurance.

We all recognize the importance of being able to say to the patient, "Your heart is perfectly sound. You have absolutely nothing to worry about from that source," or "Your symptoms are due to a diseased condition of your heart (or arteries). You will have to follow a certain regimen and take certain precautions." It is no less important to detect the signs of cardiac disease which may as yet have given rise to no symptoms, and to proffer such counsel as may postpone or prevent a failure of compensation.

In order to do this effectively, we must give due weight to history and physical findings. A just interpretation of the one cannot be made without the other. The history must be carefully gone into; the physical examination must be thorough.

In eliciting the history especial pains must be taken to discover if the patient has had any previous general illness, such as pneumonia, typhoid or scarlet fever, which may have weakened the myocardium; such as diphtheria, which may have affected the innervation; or such as rheumatic fever, tonsillitis or chorea, so commonly associated with endocarditis. But especially we must inquire as to indications of cardiac distress; as to whether the patient has been able to compete with others of the same age and sex in athletic sports or outdoor work; as to whether climbing stairs or other heavy exertion is productive of shortness of breath.

The physical examination should embrace a determination of the *rate and regularity* of the pulse; *inspection*, for the position of the apex beat, retractions, or abnormal pulsations; *palpation*, for the apex beat, thrills and shocks; *percussion*, for the outlining of the cardiac dulness, remembering that this procedure may prove very deceptive and that the x-ray, properly used and properly interpreted, is far more reliable; *auscultation*, for murmurs and other adventitious sounds, and for accentuation of aortic and pulmonic second sounds; and a reading of the systolic and diastolic *blood pressure*.

The pulse rate must be taken and the heart action observed, both before and after exercise. The common test for this purpose is requiring the patient to hop 100 times on one foot. After two minutes rest there should be no marked acceleration of rate or abnormality of heart action.

The heart may be considered as normal, if the rhythm is regular and the rate not persistently above 100; if the apex beat is inside the nipple line and in the fifth interspace (fourth interspace in young children); if there are no abnormal areas of dulness above the base or to the right of the sternum; if there is no sharp accentuation of pulmonic or aortic second sounds, no murmurs or thrills, no history of cardiac distress, and if there is a normal response to exercise. Given such findings, the blood pressure will almost invariably be found within normal limits.

Complications in diagnosis begin to arise when the rate is too slow or too fast; when there is an irregularity of rhythm; when murmurs are discovered, or the blood pressure seems to deviate from the orthodox figures. It is on these rocks that most of our diagnostic barks split, and it must be admitted that the sirens that lure us on too often speak through instructions to life insurance examiners and through the pages of medical literature.

As a general proposition it may be stated that with a negative history, with the apex in normal position, and with a normal response to exercise, the following findings are without pathological importance:

1. Most systolic murmurs at the apex and at the base. These are usually soft, varying in intensity, depending on position of the body or influenced by respiration, and not transmitted. In the healthy individual they are most common after exercise or mental excitement. The so-called hemic murmurs of disease it is not necessary to touch on here. If the murmurs are marked, are transmitted, or are accompanied by other signs, a further study of the case may be necessary. Quoting from Circular No. 21, S. G. O., July 14, 1917, which has been of value in

the preparation and arrangement of this paper, "It can not be too strongly insisted on that, given a heart of normal size and responding normally to effort, any murmur that is heard should be considered accidental and insignificant unless it can be positively demonstrated that it is a mitral or aortic diastolic murmur."

2. Occasional missed beats or variation in rhythm, other conditions of normality being met. A slowing or quickening of the pulse during the examination is very common, and may either be due to the influence of respiration or to the psychic effect of the examination. Frequent dropped or premature beats may necessitate further observation as to whether they may or may not be of a transitory nature.

The following findings may be considered as distinctly pathological and justify the examiner in making at least a provisional diagnosis of organic disease:

1. An apex beat or dullness outside the nipple line, especially if accompanied by murmurs, or accentuation of the second aortic sound; dullness to the right of the sternum, or pulsation or dullness above the upper limit of the heart. The "athlete's heart" must be considered guilty, until its innocence is proven.

2. Pronounced thrills or shocks.

3. All diastolic and pre-systolic murmurs at base or apex.

4. A loud, slapping first sound at the apex should warn one to look for further evidence of mitral stenosis. A ringing, accentuated aortic second sound should put one on guard against hypertension, and a similar pulmonie second against mitral regurgitation.

5. A diastolic blood pressure of 100 or more is a danger sign. The systolic pressure may be allowed more latitude and may show a moderate temporary elevation without sinister significance. There is considerable difference of opinion as to where the line should be drawn. The circular above quoted directs that in the examination of soldiers a persistent systolic pressure of 160 mm. or more shall be considered as disqualifying.

We will inevitably find border line cases about which we can come to no positive conclusion, even after a thorough study of all the evidence available. We will also surely make mistakes, no matter what care we may take to avoid them. But there seems to be no reason why the profession may not avoid many of the errors of the past, owing to the improvement of diagnostic methods and pathological knowledge, and why we may not see a rapid diminution of the number of cases of heart disease that are such only through mistakes in diagnosis.

DISCUSSION.

Dr. Lea A. Riely, Oklahoma City: I enjoyed that paper very much indeed. It further emphasizes things I brought out in my paper. An examination of your patient both in a standing and sitting position, and a recumbent position, often brings out factors that would not show just in one position. Sometimes there is a slower pulse standing than sitting down. It shows a damaged heart. As the doctor brought out in his paper, the diastolic lesion is the factor considered the most serious.

Dr. L. J. Moorman, Oklahoma City: Dr. Brown has given the section a very interesting paper, full of significant statements in connection with the diagnosis of the heart. His subject is a very big one, of course. I could spend hours discussing the diagnosis of these conditions, and he certainly crowded a great deal into a small place. I think his paper should be highly appreciated. In regard to the pain in these heart conditions, I remember that McKenzic, in discussing these conditions, makes the statement that pain is always due to myocardia. He said the only sign for endocarditis is the murmur. There is practically always a pericarditis when there is involvement of any structures of the heart. It seems to be pretty definitely proven that reflex pain is due to myocarditis. Dr. Riley touched on one subject which I think is very good and that is putting too much significance on the irregularity of the heart. I think some people go through life with an irregular

heart action. These irregularities should always serve as a warning, however, and we should keep the patient under close observation until we discover the significance of the same. Dr. McKenzie once had occasion to examine a man up in the seventies who had had an irregular heart. He was turned down for Government service when he was young on account of an irregular heart, but he lived to a ripe old age without any heart trouble, but as Dr. Brown has suggested, we should be very cautious in making definite diagnosis of these cases.

Dr. F. J. Wilkiemyer, Muskogee: The thing that is most important to me is the prognosis. I can recall two special cases. One was a young man 22 years of age. I picked him up on the street here. He was in agonizing pain. I sent him to the hospital. The nurse called me up and said the man was simply crazy. I went out there and the man said, "For God's sake, give me something for this pain." I told him to just be a little easy and when I returned he was dead. I found out that this young fellow was a hobo. He had travelled all the way from Kansas City. It was surprising what that man could do, laboring under the difficulty he had. I recall another young man who lived to be thirty, a noted oarsman in college, with a marked congenital heart. He did not die of heart trouble. He died of typhoid fever. It is the heart muscle we must look after. We have got to get a history, and want to know what he can do; how much reserve power; how long and how much digitalis it will take to get back to that position. The diagnosis is a thing that is very interesting. The reserve power of the heart muscle is tremendous. Just because we find a lesion we must not say he is going to die.

Dr. C. W. Heitzman, Muskogee: What we want to get away from in medicine is the safe doctors, always anticipating trouble; taking the joy out of life when he wants to play safe. This is especially true with these heart cases. In fact we are not going to make more progress in the practice of medicine until every general practitioner can investigate for himself. How long these men live and what they can do the general practitioner cannot say.

Dr. Brown, Closing: I would state that I fully appreciate that this subject is quite a broad one and that volumes could be written on it and by no means did I expect to come within a thousand miles of completing it. My idea was to bring out some of the fundamental facts, and by the suggestions I feel amply repaid for my work.

AGREEMENT IN RESULTS OF THE WASSERMANN REACTION.

The blood serums of 3,000 patients were subjected to the Wassermann tests by two independent laboratories. An analysis of the results made by H. C. Solomon, Boston (*Journal A. M. A.*, March 20, 1920), showed that there was a complete uniformity in the findings of the two laboratories in 93.44 per cent. The 6.56 per cent variation included cases reported as doubtful. Considering only the variation of cases reported positive by one laboratory and negative by the other the percentage variation was 4. This was 1.4 per cent positive in one laboratory and 2.6 per cent positive by the other laboratory. Some of the cases reported positive by one laboratory and negative by the other were known to be syphilitic, so that the negative reaction was the incorrect one. Considering then, the cases that either laboratory may have reported as positive in nonsyphilitic cases, the percentage was 3.16. This is probably a higher percentage for false positives than actually occurred, as some of these cases were presumably syphilitic. This percentage variation is based on only one test. Repetitions resulted in a uniformity of findings in the majority of cases. This is considered a good testimonial for the accuracy of the tests as performed in these two laboratories.

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C. A. Thompson, Secretary-Treasurer.

REMITTENT MALARIAL FEVER.*

JOHN A. HAYNIE, B. Sc., M. D.

DURANT, OKLAHOMA

In presenting this paper on a subject of this nature, I do so fully realizing how difficult it is for an essayist to write an interesting and entertaining paper on so old and time-worn subject. In its presentation, I am not presumptuous enough to claim any new pathological findings nor symptomatological manifestations, but rather wish to call your attention to the cause of this disease, its clinical course, and its general management.

Remittent Malarial Fever—sometimes called bilious remittent fever, aestivo-autumnal fever, etc.—is an acute infectious disease, caused by the plasmodium of Laveran, which is transmitted to man by the bite of an infected female mosquito.

"Malaria has been one of civilization's greatest foes, both in time of war and in peace. Where shot and shell have slain their thousands, malaria has slain its tens of thousands. Malaria is the chieftain of the army of diseases. Even Napoleon acknowledged its supremacy when he wrote his minister of war on the occasion of the Walcheren expedition, 'We are rejoiced to see that the English themselves are in the morasses of Zealand. Let them be kept only in check, and the bad air and fevers peculiar to the climate will soon destroy their army'."

Almost since the earliest history of man, we have, likewise, a history that he has always, in certain latitudes, been the victim of malarial infection; man has often been seriously handicapped, both physically and mentally by this infection. So much so that "Gigantic commercial enterprises have been undertaken and then abandoned on account of the havoc wrought by this scourge. Only recently has it been recognized that the medical man must precede and prepare the way for the engineer and laborer." We saw this demonstrated in the building of the Panama Canal and in many of the campaigns during the progress of the recent World War.

The most momentous advance in our knowledge of malaria of late has been the discovery that man, himself, is the host from which the female mosquito obtains her spring stock of plasmodium for distribution. As many lives have been sacrificed and as much physical and mental inefficiency produced by malaria as any disease with which the South has to deal. Millions of dollars every year are lost through its ravages. Jones claims, "That malaria made the Greek weak and inefficient; it turned the sturdy Roman into a blood-thirsty brute." The importance of the study of this subject is shown by the fact that two of the Nobel prizes have been awarded to men who have made discoveries in malaria, viz., Ross in 1902 and Laveran in 1907.

The clinical course of this disease is too well known for me, at this time, to go into its symptomatology extensively, but will say that it usually begins with a chill or a series of chills, which are often preceded by prodromata, such as languor, headache, yawning and stretching, aching in the back and limbs, anorexia, epigastric distress, and chilly sensations. The urine is high colored, there is constipation—sometimes diarrhoea—enlargement of the spleen and liver, soreness over the stomach and bowels, coated and foul tongue, broad in its dimensions and boggy in appearance, nausea and vomiting of bile, sallow and muddy complexion, foul breath and bitter taste in the mouth.

The malarial parasite infects the erythrocytes where they continue to grow until practically the entire cell is occupied. Then it sporulates or segments; these spores escape into the blood plasma where they attack other red blood cells, and when the spores are liberated or segmentation takes place, a paroxysm is produced. This may be tertian—48 hours, or double tertian—24 hours, quotidian, or quartan—72 hours. These paroxysms may be distinct or are often indistinct.

*Read in Section on General Medicine, Annual Meeting Muskogee, May 21, 1919.

The temperature rises abruptly and shows decided remissions for two or three days, when another rise takes place. These elevations and remissions often show a marked degree of periodicity. The temperature ranges from 102 to 106 F., with remissions, but, of course, the temperature is always above normal until the crisis is reached. There is generally a cold stage, a hot stage, and a sweating stage, but one or more of these may be lacking. The pulse is full and bounding, delirium may be present, the patient cyanosed, the conjunctiva congested and a hectic flush on the cheek. The malarial parasite, at times, produces a chain of symptoms hardly found in any other disease or combination of diseases, and our diagnosis should always be confirmed by a blood examination with the microscope.

The course and severity of all diseases are unfavorably influenced by bad hygienic environments. The deleterious influence of filth is seen in our daily rounds to the unfortunate sick. Hence, it is one of the important elements of treatment to have a patient so situated that he will have proper nursing, agreeable attendants and suitable food. Rest in bed is essential, and the method of handling fevers in general should be employed here. There should be a daily evacuation of the bowels, plenty of water and lemonade, ice caps to head for headache, and alcoholic rubs.

The controlling of the fever is an object of much importance, and is best done by hydrotherapy, in fact, it is to be understood that any form of hydrotherapy, applicable to other fevers, is likewise indicated in this fever. The ingestion of large quantities of liquids by the mouth, vein, or rectum according to indications and opportunity, is indicated in the severer cases, as it tends to flush the kidneys, removes the poisonous toxins, and prevents albuminuria, and, hence, reduces the likelihood of complications.

The mosquito is the disseminator of this disease and lives near the surface of the earth; the malarial mosquito rarely bites before sun-down. People living in heavily malarial infected regions, find themselves almost immune if they occupy sleeping apartments in the second or third stories of buildings, but, on occupying the ground floor, they are soon the victims of malarial infection. This fact was known long before the true nature of the disease was discovered. Hence the way to prevent malaria is to reduce mosquito life to a minimum. This can be done by screening houses, emptying cans and basins of water, and draining marshes and pools. Those that cannot be drained should have oil poured over their surface to kill the larvae.

Physicians differ somewhat on the treatment of this disease, but any treatment demands that a thoroughly wise therapist has no routine method. However, with a diagnosis completed with the aid of the microscope, we have certain indications to be met, with the application of known and positive remedies.

It has been my custom to begin treatment with an initial purge, for I usually find the secretions blocked, the liver torpid and inactive, and the bowels constipated. The alimentary canal should be cleaned out and kept clean, which prevents decomposition of its contents and inhibits bacterial development, and this prevents, or reduces to a minimum the formation of toxins. The mild chloride of mercury, podophyllin, sodium bicarbonate, and sometimes ipecac have served me well, a proportionate dose of this every two hours until effect, followed in four to six hours with a saline. Castor oil sometimes is used instead of the saline. The cathartic is repeated every few days until marked impression is made on the liver.

In quinin we possess the greatest remedy. I begin this drug soon after the purgative, or as soon thereafter as there is no likelihood of it being driven out of the stomach into the intestines, where it is precipitated by the alkaline juices. Quinin is the sovereign remedy and is indicated in all stages of the disease.

In fact, "It is to be considered that quinin is a specific for malaria, for the reason that it kills the malarial parasite which the patient harbors, especially in the blood stream. The problem, therefore, is to change the body and especially the blood stream into a solution of quinin sufficiently concentrated to kill the parasite without

likewise injuring the body. In the failure to carry out this idea of employing quinin-solution below the strength lethal to the parasite lies one of the causes of the failure in the treatment of malaria." The salt of quinin that the writer uses generally is the sulphate, which is given by the mouth, often with dilute hydrochloric acid. I have used other salts, but do not know that I obtained better results than with the sulphate. This is given in four or five grain doses every four hours to an adult. Of course, the dose might be increased or decreased as the particular case would indicate. The solution of potassium arsenite and compound tincture of iodine are often given and works admirably. It should be remembered that in this disease the red blood cells are attacked and destroyed in large numbers, and our treatment should be reconstructive.

Where the stomach fails to absorb the quinin, or pernicious symptoms develop, I use with good results quinin and urea hydrochloride intramuscularly and have never had an abscess so far. Where quick effect is desired or in grave cases, it is highly advantageous to give quinin intravenously and the dihydrochloride is an excellent preparation for this purpose. Sodium cacodylate is often used with good results when other arsenicals can not be used. Methylene blue, dilute nitrohydrochloric acid, iron, hydrastis, etc., are at times indicated.

Patients should remain in bed throughout the febrile stage of the disease and a few days thereafter, and should be kept under observation and treatment after recovery seems established. Preferably until repeated negative reports are had on the blood with the microscope. Too often the patient is either negligent or believes the doctor just wants to run an additional bill on him and quits treatment before being discharged as cured. If it were possible to treat all patients for a sufficient length of time after apparent recovery, this disease would die out. The female mosquito could not bite an infected person, and, hence, the link in the biologic chain would be broken.

GENERAL PROGNOSIS OF SYPHILIS.

According to Sigmund Pollitzer, New York (*Journal A. M. A.*, March 20, 1920), there is no factor in the prognosis of syphilis that is comparable in importance with early and energetic treatment. The syphilis that has been generalized in the system, that has infected every organ and tissue, that, in the course of years, has induced sclerotic changes in important structures, presents an entirely different prospect of cure from the disease in its incipience. The treatment of syphilis by the vigorous exhibition of arsphenamin in its primary stage, while the disease is still largely a local infection and before the organisms have acted long enough on the tissues even to provoke the development of a positive Wassermann reaction, results in the immediate cure of the disease in practically every case. It is in its primary stage that the prognosis of a properly treated case of syphilis is at its very best. The prognosis of syphilis has been immeasurably improved by the discovery of the spirochete. The second great achievement of recent years is the application of the Bordet-Gengou method of complement fixation to syphilis—the Wassermann test. The third achievement is the employment of the organic arsenic compounds to which the name arsphenamine has been officially assigned. The recent additions to our knowledge have made it possible to attack the disease by prophylaxis at the moment of infection; to make an infallible diagnosis before the system is swarming with spirochetes; to recognize the necessity for further treatment even in the absence of symptoms; to detect the disease in the central nervous system before clinical symptoms are manifest, and, finally, in arsphenamine, have given us a remedy incomparably superior to mercury in speed of action as well as in efficacy. It is inconceivable that the next generation will not reap the benefit of the improved prognosis of syphilis.

INFECTION OF GALL-BLADDER, ETIOLOGY AND TREATMENT.*

McLAIN ROGERS, M. D., F. A. C. S.

CLINTON, OKLAHOMA

There is still much diversity of opinion as to the function of the gall-bladder; but a short while ago we were prone to accept the philosophy that it was a storage tank, housing the excess bile during the quiescent state of digestion, with the power of supplying, as digestion demands; but the disproportion in the amount of bile secreted, and the capacity of the gall-bladder, practically make untenable the theory that the gall-bladder is a storage tank.

Many now claim that by mechanical action, caused by respiration, it has the power to help regulate the flow of bile.

Werelius, after experimenting with a mercurial manometer upon the gall-bladder of dogs, and observing the gall-bladder empty and refill during operations upon the human subject, claims a "suction bulb" action of the gall-bladder, also that excursion of the liver during respiration produces passive mechanical relaxation and contraction of the gall-bladder; and that during expiration intracystic pressure is much less than that of common duct; and that common duct pressure is less on inspiration; consequently during inspiration the contraction of gall-bladder forces bile through common duct to intestine.

That metastasis is responsible for most all gall-bladder infection will scarcely be questioned today. After observing a number of very interesting cases of metastasis to gall-bladder during clinical observation, during the past few years, I am convinced that metastasis to gall-bladder occurs more often than is ordinarily thought.

Abdominal infection produces by far the largest number of gall-bladder infections. The appendix being so great an offender, it should be removed for slight pathology when operating upon the gall-bladder. Within the past year, I have observed four cases of hemorrhagic infection of gall-bladder while operating for pus appendices.

In observing gall-bladder infection during surgical procedures upon any portion of the intestine, we have noticed that it occurs when mesentery is most involved; and I am convinced that intestinal infections will produce metastasis to gall-bladder almost in direct proportion to the mesenteric involvement when favored by virulence of infecting agent.

Again we observe that metastasis to gall-bladder from pelvic infection occurs more often from the more virulent types of infection, those with the least tendency to produce abscess and free pus. In an effort to make diagnosis of gall-bladder, disease history is of the greatest importance; next in importance is to exclude simulating lesions; third, physical examination followed by laboratory and x-ray.

Occasionally it will be necessary to differentiate gall-bladder disease from that of kidney or appendix, but the more common troubles simulating diseased gall-bladder are peptic ulcer and carcinoma of stomach. In peptic ulcer the characteristics of pain, periodicity of attacks, relation to taking of food and hunger type of pain, which is more marked at night when the ulcer is in the duodenum. The early symptoms of stomach cancer are vague; the absence of periodicity in cancer being its only characteristic feature. Cancer is not noticeable until it interferes with gastric motility.

Judd classifies gall-bladder disease in four groups: 1. Chronic cholecystitis, characterized by dyspeptic symptoms. 2. Gall-stones with colic. 3. Cholangitis with stones in the common duct. 4. Atypical cholangitis with painless jaundice.

The last group simulating cirrhosis of liver and malignant disease. When disease is confined to gall-bladder the early symptoms are atypical and indefinite and the patient may go a long while without symptoms. When colic supervenes,

*Prepared for Section on Surgery and Gynecology, State Medical Association, Muskogee, May 21, 1911.

which is more often at night, it is characterized by spontaneous onset, great severity, usually short duration, followed by soreness in the gall-bladder region. With common duct obstruction by stones, we get symptoms of colic, jaundice, fever and leukoeytosis. With acute pancreatitis occurs vomiting, intense pain, constipation, temperature may be normal or subnormal and generally followed by collapse in a few days.

Just how often, if at all, an infected gall-bladder may recover without surgical interference and remain healthy, appears as yet undetermined. So far as we have been able to obtain, there is no medical treatment which will cure or affect the course of infection of gall-bladder, consequently the treatment is surgical.

It is a lamentable fact that the average practitioner of medicine does not feel so secure in his conclusions about gall-bladder disease as he does with diseased appendix and does not refer them so promptly for surgical service.

When surgical interference upon the gall-bladder becomes necessary, cholecystectomy is the operation of choice, being followed by fewer cases with recurring trouble.

Willis has shown by experiments upon dogs that bile is a potent agent in the production of adhesions, making drainage less inviting.

Patients with cholecystectomies make better recoveries from operation, while in cholecystostomies the percentage of recurrence are much higher and have uniformly more complaints.

Cholecystostomies should be done only: 1. In cases of the very old or very feeble; 2. Cases of jaundice or pancreatitis; 3. Cases of inaccessibility and where traumatism and the surety of free drainage means much.

Indications for cholecystectomy would include all other cases where surgical interference is necessary, as: 1. Cholecystitis without stones; 2. Calculus in bladder; 3. When walls of gall-bladder are diseased; 4. Any obstruction to cystic duct; 5. When there are adhesions which interfere with function; 6. Papilloma or strawberry gall-bladder; 7. Malignancy.

Operative mortality in dealing with gall-bladder disease depends upon several factors; in the elective or quiescent state, the operation is usually simple and comparatively safe; whereas, acute infections involving the common duct with jaundice make poor risks. This type would be best timed to quiescent state if could be.

Many highly inflamed gall-bladders, even where walls are almost gangrenous, may be safely removed, provided tissues about the cystic and common ducts be pliable and not swollen.

One of the things that make against the patient in acute trouble, is the uniform bad state of nutrition.

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C. A. Thompson Secretary-Treasurer.

PATHOLOGIC LYING IN A CRIMINAL.

The case reported by N. S. Yawger, Philadelphia (*Journal A. M. A.*, March 20, 1920), shows emphatically the character deviation of a pronounced and persistent fabrication, abnormal in type. This is a degenerate condition and almost invariably accompanies other forms of degeneracy, as was illustrated in this subject, who was likewise guilty of the most hideous crimes.

VENEREAL DISEASES, THEIR CONTROL AND TREATMENT IN THE UNITED STATES ARMY.*

HUGH SCOTT, M. D.

OKLAHOMA CITY, OKLAHOMA

LATE LIEUTENANT COLONEL, MEDICAL CORPS, U. S. A.
SURGEON (RES.) U. S. PUBLIC HEALTH SERVICE.

Agreeable to an ancient custom, it is fitting to make an apology in the first paragraph of a scientific paper, but at the present moment I do not feel like an apology is due you; however, by the time I have read this paper I will not be surprised or offended if any of you demand an apology. It is a very hard task for me to talk to men of this section who make urology their special work. I hope that you will not feel that I am an interloper in your chosen field. Four years ago, something now over four years, I was ordered on active duty in the Medical Reserve Corps, I had had twelve years service in the Medical Corps of the Oklahoma National Guard; I had completed the course at Fort Leavenworth for Medical Officers, and was fairly well equipped for Army service. My first station was Fort Morgan, Alabama, the coast defenses of Mobile, Alabama. From the day I reported until the 18th of last December when I was mustered out, I met more or less venereal infection, in all its forms and phases.

In the old regular army the laws and orders were very strict in regard to venereal diseases, but in spite of this we had much to contend with. A few of the old regular soldiers were tough birds to control. His sole ambition in many cases was to get by as easily as possible and for that reason he was a soldier; out in civil life he had to hustle, but in the service he had plenty of good clothing, plenty of good food, regular hours and a minimum of actual physical exertion. I am now speaking in a general way—his favorite pastime was permission to go on pass and his favorite amusement was to indulge to the limit in alcohol and sexual pleasures. Had he left the alcohol alone his venereal rate would have been exceedingly low, for practically every case that I ever recorded had an alcoholic history; in his addled condition he neglected to take the prophylactic treatment and within a few days after his return to duty he either was caught at the physical inspections or voluntarily reported the condition at sick call. He was at once put on the usual treatment which I will cover later on in this paper. In practically every post, garrison or camp there was a standing general order that automatically confined this man to the limits of the reservation and kept him thus confined until he was pronounced cured by the medical officers.

For the benefit of those present who have had no military service, I will dwell a few moments on the regulations and orders as they existed prior to our entrance into the world war. If a man came in with a "dose" the records of the prophylaxis station or unit were referred to and if it was shown that he had taken due precautions and the prophylaxis was non-effective, he was not tried by summary court, but if his name was not written there charges were at once preferred against the unfortunate and in addition to his physical discomfort he usually had sufficient mental discomfort to make him extremely miserable. If the disease was complicated and he lost any time, he lost his pay, paid a fine and made up the lost time at the end of his enlistment. We jogged along pretty well for peace times, gave the cases our best attention and the latest and approved treatment; some posts or camps had a very high rate while others were extremely low. The posts that furnish games and entertainment and were in bone dry communities had the low rates, while the reverse had the higher rates. I can say this, that at all times the Medical Department had the hearty cooperation of the line officers and the Surgeons General were always seeking a method to lower and prevent venereal diseases. The towns and cities and the public made little effort to suppress the carriers, houses of prostitution existed everywhere, street walkers and clandestine infections were everywhere. Some effort was made to control the condition at various camps and posts. Segregation and medical examination of the women of

*Read in Section on Genito-Urinary and Skin Diseases and Radiology, Annual Meeting, Muskogee, May, 1919.

the underworld was tried but it was all a failure on account of public sentiment and a lack of co-operation.

Finally the standing army and the national guard were assembled on the Mexican border. A general order for mobilization unofficially assembled most of the prostitutes of the country and they trailed along in the rear in the cover of darkness, a large majority after the money and many following a "lover." Disease came along with both organizations, the army and the guard, and along with the army of prostitutes came a larger diseased crowd. Then the military authorities tightened down and at that time started the real fight against venereal diseases. The old plan in force for some time in the regular army was intensified and elaborated upon, a high rate soon begun to decline, and all went well enough until we crossed the line into Mexico. No acute or infectious cases were taken along but very soon old cases reoccurred. The hard physical strain told on the well and more so on those that had been diseased. Old syphilitics developed what looked like new secondary symptoms, secondary skin eruptions recurred, sore throats, headaches, muscular soreness and slumbering syphilis was awakened all along the line in all its forms. Nervous syphilis manifested itself in all its treacherous ways. Man after man fell out and was returned to the border. Cases that were pronounced cured by all laboratory findings as well as clinical, developed. So it was with gonorrhea; stiff joints, heart lesions, and in many cases the gonococci started anew its campaign, and I have seen discharges that looked like an acute case develop. We medical officers came to the conclusion that these diseases could not be and were never cured. A negative Wassermann meant nothing to us. We looked for and found most everything. Then when the National Guard was called out, those of us who were sent back from Mexico to conduct the physical examinations rejected every venereal guardsman on his federal physical examination on this account. We plugged along cutting down the rate everywhere.

I was then ordered to Hawaii. There I found still a much larger amount of venereal diseases. It is always so in the tropics. This is so for many reasons; first, on account of the type of citizenship, then a long list of causes. Heat, a more virulent infection, booze, and a low standard of living. Honolulu had the segregation plan and medical officers, much against their will, were detailed to make physical inspections of the denizens of the bamboo and nepa shacks. Finally the lethargy of the tropics was cast off and a slumbering public conscience was aroused until the districts were wiped out and our fight became less in its intensity.

When the curtain went up for the big show and Uncle Sam threw his hat into the ring, I returned to the United States and was placed on recruiting duty. In a very few days we discovered that if we rejected all applicants for enlistment that had a venereal disease we would never get into the big show until Germany had reached Paris. So we took them all regardless of the stage of the disease, except those who were manifestly unfit—those with tertiary syphilis involving the central nervous system, we of course rejected. After awhile the great draft machinery started to grind out soldiers, and as the local draft boards sent them in regardless of the "dose," we segregated them and placed them on proper treatment and in many cases made satisfactory progress. Had we turned them down, I again say we would not have had an army in time to get into the big show. I did not get to go across but I am curious to know, and my good friends who were fortunate enough to go across and those with whom I was associated in the treatment of these diseases will soon let me know, whether or not the "cured" cases that went to France had the same recurrences that we had in Mexico. I presume that they did, for the service was naturally harder in France than in any other campaign. The Commission on Training Camp Activities, the U. S. Public Health Service, the local, state and Federal peace officers, the churches, and every decent thinking person awoke, and the fight that was made against venereal disease was the best organized and the most intense ever waged against any condition and in a little while the high rate slowly subsided.

I will quote some figures that most of you may have seen before, but it

does us a lot of good to dwell upon these statistics. From the beginning of war to September, 1918, two million three hundred thousand days, working days, were lost. A total incapacity of sixty three hundred soldiers for the entire year and it cost near a thousand dollars to make and equip a soldier, so you will at once see the economic loss. Each case of syphilis caused a loss of 20.75 days, each case of gonorrhea caused a loss of 9.53 days, from syphilis five hundred and fifty thousand two hundred and fifty days, a loss of one million four hundred and eighty six thousand six hundred and eighty days. Soft chancre caused a loss of 11.69 days for each case, or a total of two hundred and fifty-eight thousand two hundred and thirty days. Five-sixths of the venereal diseases were brought in from civil life by the drafted men. This gives you some idea of how badly infected our population was prior to our entrance into the war.

I have rather given you the history of the wanderings of a soldier of fortune, it's hardly necessary for me to go much into the care and treatment of the diseased, but will go into this subject briefly as the treatment in the Army differs but very little from that of the prescribed methods now in vogue. Early in the war it was seen that it was necessary to have a uniform system of treatment on account of general efficiency. Efficiency is the paramount effort in all branches of the Service. Each branch develops an *esprit de corps*. The Medical Department, probably being the highest scientific branch, naturally had the greatest problem confronting them as a whole. The first duty of a medical officer was of course to his patient, the next duty was to the Government. All his efforts were to keep as many effectives on the firing line as possible. The importance in the beginning was of course the prevention, then the cure.

I will deal with the treatment of gonorrhea first, because it was the most common. The new men were the ones that usually had it for two different reasons, first, just before they were drafted or enlisted they usually put on a show in the old home town or on the way to their first camp and by the time they turned up at the concentration camp they were well along in the acute stage or it developed within a few days after their arrival. All venereals were put in the Developmental Battalions; these battalions were the organizations where all of the misfits of the camp finally landed. Any soldier or recruit who did not have the necessary elements of a good soldier was placed here by camp orders; many reasons too numerous to mention in this paper caused a soldier to finally land there. I will deal with the venereal ones. As soon as a man was caught at sick call or the bi-monthly physical examination or, as the men called it, the "short arm inspection," they were at once sent to the battalion. Treatment was at once instituted; the treatment varied in camps, but as a whole it was about the same; the methods differed according to numbers. Some camps, where they had hundreds, arranged a system whereby fifty or more men could be irrigated at once. This was done by individual irrigation cans with a catheter attached to the rubber tubing and as the bladder filled with the solution it was caused to flow into a trough where they all emptied. Other camps had a large G. I. can which is about the size of a common barrel; this had an inch pipe running the length of the building and every few inches this pipe was tapped and a rubber tube connected with a nozzle or catheter was used and the patient urinated in a trough. I have seen a hundred men being irrigated at one time in this manner. In the smaller units they all stood around one large can and an attendant held the can containing the fluid to increase the flow by gravity. The two-glass test was made in all cases to watch the progress of the treatment. Each patient had two glasses or bottles. Then followed the microscopic examination of the pus or discharge made by the laboratory. In the acute stage rest is important, then irrigations of permanganate of potassium or some of the silver salts. The cases were finally finished off with one to three to five thousand silver nitrate and lead and zinc. Little if any internal treatment was ever given other than to keep the bowels open. Occasionally a little salol and santal oil were given. Before the patient was finally discharged, his prostate and the vesicles were carefully examined and he was then sent again to the laboratory for a final examination.

I am glad to say that under this method of treatment we had very few men return. As soon as they were probably cured the surgeon recommended that they be transferred from the developmental battalion to some line organization.

The treatment of syphilis could not be handled on the wholesale plan as was gonorrhea. Diagnosis, and when we speak of diagnosis we mean early recognition. All syphilitics were carded and were then recorded on the syphilitic register, each soldier having the syphilis had a register made out that followed him throughout the service. This insured a uniformity and kept a case history, giving all laboratory findings and a record of the salvarsan and mercury treatments. Going back for a moment to the diagnosis, early recognition is of prime importance for the earlier it is treated the better the results and the soldier rendered non-contagious and returned to duty. It is possible to discover syphilis before you get a positive Wassermann, and that is to look with suspicion upon every sore. Every excoriation, crack, papule, nodule or herpetic erosion, no matter how small, may be the initial lesion of syphilis and should at once be searched for spirochetes. Early in the war it was a common practice upon the part of the medical officer just in the service to want to cauterize these sores and thus a great field was destroyed. A G. O. was finally issued that no sores were to be cauterized before they were sent to the laboratory for examination. We followed two procedures in obtaining the specimen which were as follows: The surface was wiped with gauze wet with normal salt solution to remove any saprophytic organisms, especially the spirocheta refringens. This left a clean oozing surface with no bleeding, occasionally a light scraping was necessary and to squeeze the sore lightly caused an exudation of lymph from the deeper portions of the tissues. A drop is then placed on a slide with the usual technique with which you are all familiar. Glandular aspiration in all cases is preferable and should be the dependable procedure. Aspirate the gland with a small needle and examine the tissue juice. The experienced observer will readily recognize the spirocheta. The members of this section well know its morphology. The excision of the chancre is doubtful procedure and of no material benefit, for usually by the time the chancre is recognized the virus has spread until it is impossible to excise and I would not recommend it.

As soon as you are positive that you have a case of syphilis to deal with, start your treatment and push it vigorously and to the limit of the patient's endurance. Examine your patient for diseases of the kidney, liver and vascular system and acute febrile diseases. I saw one case, however, with the influenza and in a very infectious stage given salvarsan with no bad results, but a rapid recovery, so I might suggest salvarsan as one of the many remedies for the influenza. I will not go into all of the technique of administration of salvarsan or neosalvarsan. I prefer the salvarsan, but the neosalvarsan is easily given. You all know of the reactions that may follow and what to do, mostly the thing to do is to do nothing. They will come around all right, the reactions are usually the fault of the surgeon and not the fault of the drug. I cannot go into all of the different angles of the treatment in this paper, but it is a long technical procedure and is not for the novice or the careless practitioner; it is too serious a disease to be treated disrespectfully and the technique is too fine and elaborate for every one to attempt. Havoc may be wrought, infiltrations, and irreparable damage done, and so it is with all G. U. work. The crimes that have been committed against suffering humanity by the inexperienced trying to treat these diseases are legion and I want to say emphatically that no general practitioner should attempt to treat any of these afflictions without having special study and proper equipment. The average general practitioner is as bad in his treatment as the corner druggist, and probably he does more damage than the corner druggist. I speak from experience and I hope that the State Superintendent of Health will cause an order to be issued prescribing the treatment and methods to be reported with the case reports as now required in this State. Follow the salvarsan with mercury, either the insoluble or the soluble. We soon develop a preference, I personally prefer the bichloride. Some of my good friends prefer the salicylate and others the succinamid. Do not overlook the old

fashioned mercury rubs or innunctions. They do a world of good and in some cases are preferable.

I purposely have kept off of the technical side of this subject. To those who are interested, follow the *American Medical Journal* and you will find plenty of excellent papers and very technical. I would suggest to every member of this society that he send to the *Journal* and buy a copy of the Manual of Treatment of Venereal Diseases. It only costs twenty-five cents and it will be a great help to the general practitioner, not only a help but a guide and he will not cause any damage to his patient if he will follow its instructions. To the G. U. man it is a great satisfaction and much pleasure for him to read.

SUMMARY.

The big show is over for most of us. If we don't get a League of Nations we will have a peace treaty that will forever put Germany out of the way and a combination with England and France that will police the world.

We now turn from war to civil practice. Prevention is now the watchword. In many towns in the State the clinics have been established and will do much good. The G. U. man will keep on with his good work and it is now up to the general practitioner to either equip himself to properly treat these diseases or send them to a man who can properly treat them. A large majority of the general practitioners prefer to send them to some one else. Let us all make a solemn vow to wipe venereal diseases off of the map. I thank you all very much for your indulgence.

304 Oil Exchange.

LARYNGEAL CRISIS WITH AN UNUSUAL COMPLICATION.

The case reported by L. T. Gregory, Evanston, Ill., (*Journal A. M. A.*, March 20, 1920), was apparently a syphilitic laryngeal paresis, corresponding to a gastric crisis, so frequently seen. It might have been an unusual type of diphtheritic paresis, but this is not likely, as there were no history of any diphtheritic process and no local evidence of diphtheria in an active form. Furthermore, it was a paresis, transient in type, and not a paralysis, as usually seen following diphtheria. Finally, the Wassermann reaction was strongly positive with other evidence of syphilis as seen in the sluggish pupil, perforated septum, scars on the back and chest, and painful and roughened tibia, with a history of chronic sore throat and nocturnal pains in the lower extremities. The immediate response to antisyphilitic treatment confirms the diagnosis.

YELLOW FEVER IN ECUADOR.

A preliminary report on measures taken for yellow fever control in Guayaquil, Ecuador, is given in the *Journal A. M. A.*, March 6, 1920, by M. E. Connor, director of the work, co-operating with the National Board of Health of the Republic. He describes the conditions, water supply, etc., which seem eminently favorable for the breeding of the stegomyia. Nearly all the water is derived from tanks. When the tanks were made mosquito-proof, lately, yellow fever cases decreased rapidly, but this reduction was considered only a control and not eradication. The campaign is based on the idea that if the reduction of the breeding places is sufficiently thorough and continued long enough the disease may be eradicated. The government and population generally co-operate well in the work, as yellow fever has been so long a drawback to the prosperity of the country, and it has been extended as far as possible. Fish are used also as mosquito destroyers, and will be employed as long as possible. The vast majority of the laboring population do not use, on an average, more than five gallons of water per day. More is hardly needed as bathing and washing clothes is usually done in the river. It is believed that the infecting mosquito can be eliminated in areas where the measures in force are being carried out.

LEPROSY IN OKLAHOMA.

C. A. THOMPSON, M. D.

MUSKOGEE, OKLAHOMA

Recent press dispatches widely heralding discovery of a case of leprosy in Nowata County has caused such undue excitement among the uninformed that a brief review of some salient features of the disease is warranted.

Voluninous reports and findings of our Public Health officers stationed in the Hawaiian Islands and Philippines where the disease is relatively common, dissipate much of the common idea that the infection is either dangerously contagious, or necessarily incurable.

The gist of opinion indicates that persons—wife or husband—often deliberately attempt every means to contract the disease in order to not be separated from their partner; that such unions persist for years without the infection being acquired. The chronicity of the disease is attested by all; its curability, by the use of Chaulmoogra Oil has been announced for many years. The absolute groundlessness of the blind fear of the disease which reaches down from Biblical days is, of course, based on lack of knowledge, prejudice and ignorance. It is generally conceded that its contagiousness is considerably less than that of tuberculosis.

The occasional, and extremely rare case discovered in a given locality, should certainly not give cause for the alarm and fear attending it. The State, or better still, the Federal Government should establish a proper sanitarium for the care and treatment of these cases, and the groundless public health laws prohibiting transfer, under proper precautions, of such cases, should be either ignored or repealed by a broad, comprehensive Federal Act, in order that they may be assigned to an institution given over to the special study and treatment of the disease. There is no doubt that there are sporadic cases going over the country at this hour, wholly unrecognized and undiagnosed by such physicians as observe them.

Muskogee County sheltered one of these for several years, until his death; the case remaining in the poor farm for a year or more before diagnosis was made. In the meantime the man mingled freely with his fellows, with, to this date, no harmful consequences.

The cuts illustrative of this case and the Nowata case, are reproduced here on account of the rarity and general misconception of the disease.

The Muskogee case was discovered and diagnosed by Dr. H. T. Ballantine, then county physician of Muskogee County, the diagnosis being concurred in by Drs. C. R. Day, Oklahoma City, and A. Sophian, New York, after thorough pathological and bacteriological study. The case was of the anesthetic type, the writer excising several of the nodules for laboratory examination, without sensation on part of the patient. The *Bacillus Leprae* was demonstrated in this case.

The Nowata case diagnosed by Drs. E. S. Lain and Wamm Langston, Oklahoma City, is best described by quoting their report to State Commissioner of Health, Dr. A. R. Lewis:

The personal history of this case was taken by yourself and is not herein included.

I found this patient to be a negro, 57 years of age, who was more or less covered from head to lower part of legs with discrete nodular lesions. These nodular lesions were somewhat firm in most locations, having a slightly gummatous-like feel, though in some regions they consisted only of slight elevations which were covered with a dry sero-purulent matter which had formed a crust. These lesions varied in size from a small hazelnut to that of a hen egg. Some were smooth, round, elevated with distention of skin which gave a yellowish color upon their apex. Others had been excoriated and were exuding a slight sero-purulent matter, drying into a brownish yellow crust. These nodules gave a tendency towards grouping or appearing in lines over the branches of superficial nerves. Especially was this true upon the arms and legs.

Inflammatory conditions were not marked and patient was only partially discommoded in his locomotion. He appeared to be fairly well nourished and of normal weight for a man of his age, though was filthy in appearance to the most



NODULAR LEPROSY.

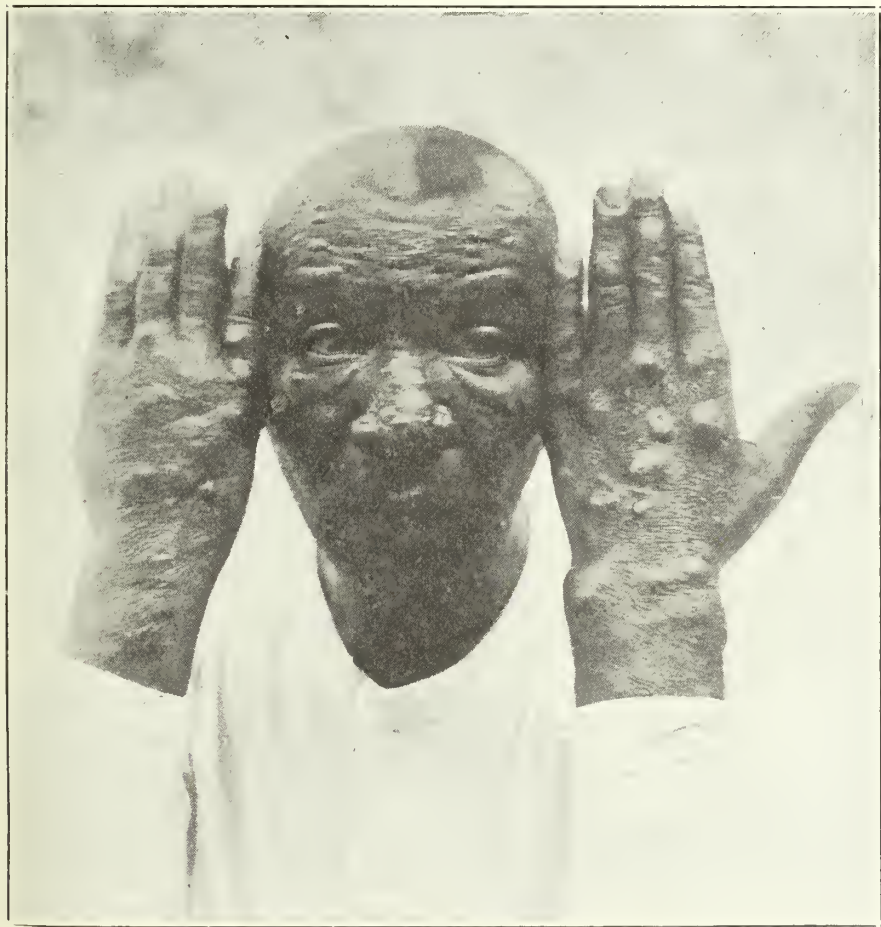
Early stage before involvement of nervous system.

extreme degree for a human animal. His temperature and pulse were taken and found to be approximately normal.

Our examination consisted of general inspection, taking of smears from numerous lesions which were placed upon microscopic slides. A specimen of blood from

his right radial vein, also a punch section of tissue from one of the larger nodules upon his left arm near the elbow. We also made a careful pin pricking test over the various superficial nerves. In this test we found only a slight hyperesthesia over some of these nerves in certain locations upon the limbs. In no location did we find partial or complete anesthesia of the nerves, such as is characteristic of certain types and stages of this disease.

In our final diagnosis will state that though the laboratory specimens and see-



tions do not in every particular confirm the diagnosis of Nodular Leprosy, yet by a method of examination and elimination of similar diseases, I am fully convinced and make such diagnosis. Namely: Nodular Leprosy in such stage in which the nervous system has not yet become involved.

The laboratory reports are hereby attached and speak for themselves. Inclosed herewith you will also find clear photographs which I made of different regions of the body of this patient.

Dr. Langston: The tissue is a GRANULOMA, and is neither tuberculous nor syphilitic. No definite demonstration of *B. Lepri* has been made, but the tissue is such as is found in Leprous nodules. No demonstration of *B. Lepri* could be made from the smears taken at the same time. Wassermann negative.

APOTHANASIA.

GEORGE IRWIN GARRISON, M. D.
QUAPAW, OKLAHOMA

"Who knoweth the spirit of man that goeth upward, and the spirit of the beast that goeth downward to the earth?"

It is surprising to find how little science really knows about death. Natural death is due to the nature of the organism, and not to disease.

We may question whether natural death really occurs, since death so frequently is caused by accident or by disease. When we come to study the duration of human life, it is impossible to accept the view that the high mortality between the ages of seventy and seventy-five indicates a natural limit to human life. The fact that many men from seventy to seventy-five years old are well preserved, both physically and intellectually, makes it impossible to regard that age as the natural limit of human life.

Philosophers such as Plato, poets such as Goethe and Victor Hugo, artists such as Michael Angelo, Titian, and Franz Hals, produced some of their most important works when they had passed what some regard as the limit of life. Moreover, deaths of people at that age are rarely due to senility. Centenarians are really not rare. In France, for instance, more than one hundred centenarians die every year.

In the human race cases of what may be called natural death are extremely rare; the death of old people is usually due to infectious disease, particularly to pneumonia, or to apoplexy. The close analogy between natural death and sleep supports the view that it is due to an autointoxication of the organism, since it is very probable that sleep is due to poisoning by the products of organic activity.

Although the duration of the life of man is one of the longest among mammals, men find it too short. Ought we to listen to the cry of humanity that life is too short, and that it will be well to prolong it? If the question were merely one of prolonging the life of old people, without modifying old age itself, the answer would be doubtful. It must be understood, however, that the prolongation of life will be associated with the preservation of intelligence and the power to work.

When we have reduced or abolished such causes of precocious senility as intemperance and disease, it will no longer be necessary to give pensions at the age of sixty or seventy years. The cost of supporting the old, instead of increasing, will diminish progressively. We must use all our endeavors to allow men to complete their normal course of life, and to make it possible for old men to play their parts as advisers and judges, endowed with their long experience of life. From time immemorial suggestions have been made for the prolongation of life. Many elixirs have been sought and supposed to have been found, but general hygienic measures have been the most successful in prolonging life and in lessening the ills of old age.

Certainly the prolongation of life which has come to pass in recent centuries must be attributed to the advance of hygiene; and if hygiene was able to prolong life when little developed, as was the case until recently, we may well believe that with our greater knowledge a much better result will be obtained, and that, in the case of mankind the ideal of human nature, toward which we ought to press, may be formed; the ideal of proper living in accordance with all the laws of health—that is to say, the development of human life, so that it passes through a long period of old age in active and vigorous health, leading to a final period in which there shall be present a sense of satiety of life, and a wish for death.

PROCEEDINGS OF THE ST. ANTHONY CLINICAL SOCIETY.

DR. CURTIS R. DAY, President.

DR. J. F. KUHN, Secretary.

DEATH REPORTS.

Dr. S. R. Cunningham. *Typhoid fever.*

Miss C., age 13. Entered the hospital December 28th, complaining of general malaise, pain in the abdomen and epistaxis.

When I first saw her two days previously she gave a history of severe pelvic and abdominal pain simulating pelvic peritonitis. The abdomen was so tender and the distention so great it was impossible to determine the origin of the trouble. Typhoid was immediately suspected in spite of the rapid onset and major symptoms.

There was a history of typhoid in the same house six weeks previously and the patient had been feeling bad for two weeks, complaining of loss of appetite, headache, nausea and occasional vomiting. Epistaxis began four days before her entrance to the hospital. She has had high fever in the afternoon for the past eight days. On the day she came in it was 104 deg., and it never went below 101 deg. Resp. 25, pulse 108, B. P. 105-80.

Physical examination. Girl of 13, acutely ill. Skin dry and hot. Tongue dry and coated, sordes on the lips and teeth. Rose spots on the chest and abdomen. Abdomen markedly distended, rigid, tender, and tympanitic throughout.

Laboratory report. Widal positive in all dilutions. W. B. C., 15,000. Polys., 78. Urine showed 2 plus diacetic. Blood in every stool examined.

On December 29th she passed some blood clots and from this time on there was blood in the stool. Each hemorrhage was accompanied by restlessness, high fever, and rapid pulse. Nothing was given by mouth. Liquids, glucose, and soda by Murphy drip. After the first hemorrhage, morphin was given freely, ice cap was applied to the abdomen and horse serum was given intramuscularly. The hemorrhages continued and she died of exhaustion and toxemia.

DISCUSSION.

Dr. A. K. West: The treatment of hemorrhage in typhoid fever is a question of a great deal of importance. I agree with the doctor in the free use of opiates. Splint the gut with opium. I prefer the powdered opium because it gives a more lasting and uniform action. This stops peristalsis, increases intra-gut tension and may favor a "blow out," but ulceration with hemorrhage is frequent and perforation is rare and I think it is better to take a chance.

I have never seen any remedy that did much good. Adrenalin and such drugs that raise B. P. are contra-indicated in any case of concealed hemorrhage. They would lessen the hemorrhage if applied to the surface, but given systemically they lessen the caliber of the vessel walls, raise blood pressure and may dislodge a clot.

Dr. John Roddy: The typical blood picture in typhoid fever is a leukopenia with a relative lymphocytosis. The leukocytosis and high poly. count in this case indicates a complication and unfavorable prognosis.

In suspected cases where the Widal is negative, a blood culture should be done. The typhoid bacilli can be isolated from the blood before the Widal becomes positive.

Dr. C. J. Fishman. *Tuberculosis—Pulmonary and Renal.*

Mrs. B., housewife, age 36.

C. C. Dysuria, hematuria, cough.

P. I. Frequent painful urination began three and a half years ago. After three months this cleared up and she felt as well as usual until the following year. This time she had nycturia (15 to 20 times), pains in the suprapubic region and the urine became clouded with pus. This was followed by hematuria which she has

had at intervals up to the present time. For the last three weeks she has had swelling and pain in the left lumbar region, and hematuria.

P. H. Has had a cough and loss of weight for the past two or three years. Has always had catarrh and chronic bronchitis.

F. H. Two brothers and one sister all have bronchial trouble.

P. E. Small, poorly nourished woman weighing 85 pounds. Skin and mucous membranes pale. Respiratory mobility decreased on left side. Dulness over left upper lobe with harsh breath sounds and moist rales. Tumor mass in left hypochondriac region with increased muscle tone. Tenderness and swelling in left lumbar region.

Fluoroscopic examination showed increased shadow above the heart, and in left scapular region.

X-ray of left kidney region showed enlarged shadow of the kidney outline.

Urine examination showed 4 albumin and many pus cells. R. B. C. 3,700,000, W. B. C. 5,300, Polys. 71. Sputum contained many tubercle bacilli. T. 99-101, Resp. 20, P. 100.

Cystoscopic examination: Capacity of bladder 3 oz. Trigone very red and ulcerated, especially at left ureteral opening. Indigo carmine appeared in the right ureteral opening in 12 minutes. Did not appear in the left after 35 minutes.

Gas anesthetic was given with intention of doing nephrectomy or opening perinephritic abscess. Five-inch incision between the crest of the ilium and the 12th rib parallel with the rib. Encountered large amount of green pus of very foul odor. The left kidney was a large pus sac. Wound closed loosely with rubber drain.

The patient improved for a time and the temperature went to normal until about three weeks at which time the cough became worse and she began to show signs of sepsis. The tenderness in her abdomen became more marked and there was edema of the lower extremities. One month later she died of generalized tuberculosis.

CASE REPORTS.

Dr. L. J. Moorman.

Case No. 1. *Hydropneumothorax.* Mr. H., white male, age 69. Entered the hospital February 8th, complaining of shortness of breath and a bad cold. Has had loss of appetite and shortness of breath for years. Took cold ten days ago. Has had a cough and pronounced dyspnea over since. Has always been a health enthusiast, taking long walks and deep breathing exercises.

Physical Examination: Poorly nourished old man of 69. Chest thin and bony. Absence of respiratory movement and Littens phenomenon on the left side. Left chest hyperresonant with amphoric breath percussion sounds. Breath sounds absent. Succussion splash present. No cardiac dulness detectable on left side. Harsh breath sounds over the entire right chest. A shower of moist rales over the second to fourth interspaces anteriorly. Heart displaced 11 c.m. to the right.

X-ray shows a double pneumothorax which is slight on the right but very pronounced on the left. The left lung is completely compressed along the vertebral column, except at the apex where it curves outward and seems to be fixed by adhesions. The x-ray plate showed general hazing over the left side suggestive of fluid.

The number of times pneumothorax is discovered by accident, x-ray, or post mortem would suggest that there are many cases with no definite symptoms. In this case he complained of weakness and shortness of breath.

The most frequent cause is tuberculosis. In fact, some authors claim that pneumothorax occurs in five per cent of the cases. In coughing or sneezing, a

cavity may break through into the pleural space. It would occur more frequently if it were not for the pleural adhesions.

Another cause is the rupture of an emphysematous bleb. The tissue forms a valve allowing air to go into the pleural cavity, with inspiration but preventing its escape with expiration causing air with pressure.

An old empyema may rupture into the lung cavity thus allowing air into the pleural cavity.

Wounds of the chest are a frequent cause but this man gave no history of injury.

Pneumothorax becomes hydropneumothorax in fifty per cent of the cases, and can be detected by the succussion splash, the oldest and most certain sign. In this case it was heard over the left side.

The diagnosis in this case is chronic pulmonary tuberculosis with hydropneumothorax. The pneumothorax evidently was insidious in the development as there is no history of sudden onset with the usual signs of shock.

Case No. II. Endocarditis. Joseph Me., age 14. Entered the hospital complaining of shortness of breath and orthopnea.

At the age of six he had tonsillitis, after which he had "heart trouble," and shortness of breath. He continued to have tonsillitis until his tonsils and adenoids were removed three years later.

At the age of ten he was in the hospital with typhoid fever, inflammatory rheumatism of the joints, shortness of breath and "heart trouble." He was in bed the greater part of the following year on account of weakness and "leakage of the heart"—probably mitral insufficiency.

One year ago he was shot in the eye with an air gun and the eye was removed.

Two weeks ago he took cold with pain in the chest, made worse by coughing. Five days ago he spit up some blood following a coughing spell.

Physical Examination. Poorly developed, undernourished boy of fourteen. Skin pale and moist. Right eye artificial. Mouth contains three decayed teeth. Gums infected. Cervical and axillary glands palpable, chest thin and bony. Harsh breath sounds over the upper lobes. No rales.

Heart measures 14 c.m. across. Apex beat in the sixth interspace 10 c.m. to the left of the mid-line.

Inflammation and swelling of the knees and finger joints.

Blood and urine negative. Blood culture negative. Temp. 98-101, Resp. 25-35, Pulse 90-120.

This condition has advanced to where he now has an enormously hypertrophied and dilated heart with both a mitral and an aortic insufficiency. No doubt he has had a mild endocarditis with gradual myocardial changes since the first attack of tonsillitis eight years ago.

Mitral disease is frequent in young people in endocarditis following focal infection. This causes pulmonary stasis and predisposes to bronchitis. The aortic valve is less frequently affected in rheumatism, but it may happen, more often in children.

From the pathology in the heart, it is easy to see why he is weak and so short of breath. He has a chronic cough which may result from pulmonary stasis due to the mitral lesion. His headache may be from cerebral anemia.

Case No. III. Luetic Meningitis. Mr. B., farmer, age 49. Ge. and possibly lues 25 years ago.

Has had difficulty in walking at night for three or four years. Delusions of persecution for the past ten months, thinking people were burning and stealing his property. Double visions for the past five or six months. Has had headache more or less all the time.

About four weeks ago he began to have drowsiness and would go to sleep dur ug

conversation. The headache became more severe. Two weeks ago he had paralysis of the left side including the left side of the face.

Physical Examination. Well developed emaciated man of 49. Mentally clouded, speech slurring and incoherent. Flaccid motor paralysis of left side. Pupils unequal, react sluggishly. Difficult swallowing. Substernal dullness increased, indicating a wide aorta. Knee jerks exaggerated.

Temperature, pulse and respiration not increased. B. P. 110-85. Routine blood and urine negative. Wassermann 4 plus. Spinal fluid showed increased pressure, cell count 35, globulin and sugar present.

Fluoroscopic and x-ray examination of the chest showed enlargement of the heart in all directions. Wide aorta curving to the right suggestive of specific aortitis.

Diagnosis. Basal meningitis, luetic in origin.

Treatment. The treatment as carried out by Dr. Balyeat consisted of free purgation and active specific treatment. Sat. soln. of K. I., t. i. d., increasing the dose each day.

1-23-20. Spinal puncture. Increased pressure; 30 cc. withdrawn.

1-25. One fiftieth gr. mercuralized serum intraspinally.

1-27. .35 gm. neosalvarsan intravenously. Spinal puncture in 30 min.

1-29. One seventy-fifth gr. Hg. serum. i. s.

2-1. .6 Neosalvarsan followed by sp. puncture.

2-4. Hg. serum, after withdrawing 30 cc. sp. fl.

2-10. .75 gm. Neosalvarsan, followed by sp. puncture in 30 min.

2-15. Hg. serum.

7-18. .75 gm. neosalvarsan.

Since the seat of activity was in the cord and meninges, it was evident that active intraspinal treatment was indicated. After three weeks treatment his pupils are equal, his facial contraction is barely noticeable, he has control of his facial muscles and he is very much improved in general.

Of course this only gives temporary relief and the treatment must be continued for some time.

DISCUSSION.

Dr. A. D. Young. Rhomberg's sign, given by most authors as an early sign in syphilis, does not become positive until late and in many cases not at all. Once it does become positive, it is not changed by treatment.

It is hard to tell the extent of destruction in these cases. Time alone can tell whether the change is vascular or parenchymatous. The Wassermann is negative in about twenty per cent of these cases. A spinal fluid with increased pressure, increased cell count, positive sugar and globulin leads one to suspect syphilis.

The headaches are significant. I have a case now in which headache has been the only sign for the past year. At present she has a 4 plus.

Dr. C. J. Fishman. I have a similar case in a patient 38 years old who has headache, projectile vomiting and a tendency to walk in a circle toward the left. Sp. fluid increased, cell count 43, sugar and globulin increased.

Spinal puncture gives great relief in these cases and intraspinal treatment should be carried out thoroughly.

Dr. Curtis R. Day. Latent syphilis of the nervous system responds to treatment, but it is hard to say just how permanent is the relief. Nevertheless it is very gratifying even in the latent cases to carry out intensive treatment.

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THIS IS THE OFFICIAL JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION. ALL COMMUNICATIONS SHOULD BE ADDRESSED TO THE JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION, 508 BARNES BUILDING, MUSKOGEE, OKLAHOMA.

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Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscript or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, 508 Barnes Building, Muskogee, Okla.

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A. will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

EDITORIAL**OUR MEDICAL SCHOOL INTO CLASS "A."**

No happening affecting the Oklahoma Doctor since his organization for mutual betterment has been received with the very generous acclaim and enthusiasm as was the news March 18th that our school had been placed in Class "A." Many varied sensations of pride and congratulation are felt when the long fight to this end; the unreasonable and selfish opposition met from many sources when legislative enactment creating certain fixed, vital establishments preliminary to the final test and weighing in the balances; hung by a thread. In addition to the ever-present opposition of Christian Scientists and gentry of that ilk, who oppose consistently every attempt to improve anything of medical education or advancement, the strange anomaly of opposition from a few members of the medical profession inspired by selfishness, or pique in the belief that they had met slights in faculty assignments, had to be met and overcome.

Well, we are through with the first great fight. After this it will be a matter of increasing pride to build from the very effective nucleus and organization existing, as great a school as our commercial wealth and resources warrants. The question of lack of money should never again be allowed to harass the men we entrust the great task of building to. Above all things, the giving over of control to inferior hands; the baneful influence of political "tinkering" with such a sacred establishment, should be discouraged by every doctor, regardless of his political affiliations.

The maintenance and systematic expansion of every part of this department should have at all times the unqualified support of our profession. This is all that is needed to make a school worthy of respect from the best. It has been the writer's boast for years, without reference to personal wrangles, likes and dislikes of physicians of that city, that it was far superior in the unusually large number of bright, alert, well-equipped and efficient physicians in every branch, to any known

center of its numbers. A visit to its several clinics by the Oklahoma doctor who does not know of their work, will convince him of the high efficiency prevailing. All Oklahoma physicians should be conversant with these facts. The maintenance of our school is the concern of all of us; it is not the property of any clique or combination of Oklahoma City physicians, but is the child of the humblest. Its support to the highest point is our concern; its continuous betterment should be the aim of every physician.

THE GERM OF PROCRASTINATION.

The specific cause of this chronic, trouble making, unnecessary affection has not yet been definitely determined. Nevertheless there is every collateral evidence that it does exist, and proof of it may be adduced by consulting the membership records of our Association for the past ten years. Almost without exception the records show that the same county secretary who was derelict ten years ago, remained so through each succeeding year until this good hour, when he and his membership is in the class of the straggling leftovers from last year. The record shows that the same men, regardless of their fine professional fitness and ability, in small towns or city, delinquent in the past, still hold to their rule.

The cost to the general body in notifications, removals from lists, errors, replacing on lists when they do finally lag in, is no small matter. It is extremely doubtful if they should longer be humored in their dereliction, at the cost of money and trouble to others. It seems fair to try out on them some form of penalization; all other businesses except medical associations, charge excess fee for renewals of lapses after a time limit. Had we better try this scheme in our organization?

SOME ASPECTS OF THE VENEREAL PROBLEM.

After several months of opportunity to observe from a vantage point the practical workings of venereal regulation laws and orders, it is our conclusion that much of the abortiveness and ineffectiveness of results is due to lack of appreciation of fundamentals of treatment, very careless indifference, sometimes downright dishonesty on the part of certain elements in our own profession. Summing up some discoveries and rather fixed opinions, which seem great obstacles or great aids, as the case may be, it is noted, that:

Physicians are grossly negligent in dismissing cases in the same old careless way of the past. They dismiss them with written certification that they are free from infection, without the slightest bacteriological test for support—in one case they were dismissed without the formality of vaginal examination.

"Guaranteeing" a cure, after receipt of one hundred dollars, administration of four doses of neosalvarsan, with not the slightest adjunct of mercury and iodides, has been traced to one physician on information from four divergent sources of information.

Criminal, inexcusable failure to appreciate vital basic necessities for cure, has been traced to a few poorly equipped physicians who condemn the "poison salvarsan," offering in lieu the unscientific mess denominated as "Proteogen No. So and So."

A near neighbor of Oklahoma, a physician certainly in position to offer sane conclusions, who in 1919 administered nearly six thousand doses of various forms of arsenicals intravenously, writes: "French, Philadelphia, Toronto or either of the New York preparations, are as good as the German—used indiscriminately, sometimes mixed." This opinion is authoritative beyond question; is placed here to refute the occasional idea of some physician who believes he has observed a difference in toxicity or severity of reaction. This idea is not borne out by experience of the writer. My informant offers this further opinion, which is worthy

of consideration of every physician, and is inserted here as a serious plea to that small minority of obstinate physicians who by use of unworthy substitutes, literally play with the life of the patient who with no possible means of discriminating between the good and bad, trusts his future to their eccentricities: "In my opinion the only thing that prevents the almost instantaneous eradication of syphilis from the surface of the earth is the doctor who refuses to use salvarsan on all cases where the diagnosis is either certain or doubtful."

Really, summing all this up should not waste so much space; it would not except realization that the only remedy lies in constant reiteration of what appears to most of us, as the simplest rule. It is speaking harshly to say that summing up, points to the physician obstructionist as a most dangerous criminal or knave.

PERSONAL AND GENERAL NEWS

Dr. Fred E. Deal, Miami, has been appointed county physician of Ottawa County.

Dr. S. H. Williamson, Duncan, who has been ill for some time, is reported as convalescent.

Dr. T. C. Branum, Pauls Valley, has been ill for some time and is in Marlin, Texas, recuperating.

Dr. C. T. Schrader, Bristow, was recently elected county chairman of the Republican party for Creek County.

Dr. P. P. Nesbitt and Mrs. Gertrude Morton, Muskogee, were married in Tulsa, March 22nd. They will make their home in Muskogee.

Dr. F. A. White, Wapanucka, and **Mrs. F. F. Brown** of that city were married at Durant, February 27th. They will make their home in Wapanucka.

Dr. A. B. Montgomery, Cheeotah, visited that city in March after his discharge from the army. Dr. Montgomery will locate in Long Branch, Calif.

Tulsa's Municipal Hospital has been receiving much newspaper notoriety lately on account of alleged charges of cruelty on the part of the Superintendent.

Dr. E. Brent Mitchell, Lawton, Secretary of the Comanche County Society, reports that his membership is 100 per cent, that every physician in the county eligible is a member.

Dr. John W. Duke, Guthrie, announces the opening of a Laboratory of Clinical Pathology. The Laboratory is under the direction of Rhea S. Campbell, former State Bacteriologist.

Dr. C. W. Townsend, Oklahoma City, experienced the usual sensation when the jury, after five minutes serious deliberation of the \$25,000.00 claim brought against him, was handed a verdict of exoneration.

Dr. E. S. Lain, Oklahoma City, will read a paper in the Section on Dermatology, New Orleans meeting, April 30th. His subject is "A Clinical Study of Epitheliomas of the Lower Lip," illustrating the matter with lantern.

Dr. Louis A. Turley, Norman, will read a paper in the Section on pathology and physiology, New Orleans meeting, A. M. A., April 29th. His subject is, "Chronic Nephritis with Special Reference to the Interstitial Form."

Dr. Leila E. Andrews, Oklahoma City, was recently tendered membership in the American College of Physicians, Chicago. It is said she received signal notice and appreciation on account of original research work in diseases of the blood.

The Special Session of the Legislature appropriated \$20,000 as a preliminary to take over the Rolater Hospital in Oklahoma City, which was formerly used by the Medical Department of the State University. The plant will be devoted entirely to treatment of disabled soldiers and sailors. It is said entire operation will be entrusted to the War Mothers, an Oklahoma City organization.

RESERVE YOUR HOTEL ROOM NOW. Physicians contemplating attendance at the annual meeting Oklahoma City May 18-20, should not fail to make early hotel reservations. If this precaution is neglected it will be practically impossible to secure accommodations at the last moment. It should not be forgotten that this year the clinics will likely begin Monday, May 18th, two full days before the meeting convenes. Hotels are: Lee-Huekins, Skirvin, Kinkade, Egbert, Bristol, Lawrence, Cadillac, Rasbach.

C. A. Thompson, Secretary-Treasurer.

Dr. V. Berry, Okmulgee, has announced his retirement from practice. The announcement came as a surprise to his many friends, for he is yet very fit and most efficient as a surgeon. He states that the pressure of his business affairs demanded that he devote all his time to them.

Dr. Berry has been in Oklahoma and formerly Indian Territory for thirty years, and has witnessed

the evolutionary changes of undeveloped wilderness, devoid of law and society, into the present greatness of Oklahoma, incidentally carrying his share of the burdens and problems confronting all serious minded men. He was the last president of Indian Territory Medical Association when that body and Oklahoma Territory Association merged into the present body, also one of the first two delegates to the A. M. A. For many years he took an active part in the political activities of the country, especially seeking to usher in the new state. Was a delegate to various statehood conventions and a member of the Territorial Democratic State Committee. For many years he served the Seminoles as National physician. After statehood he served as a member of the State Insane Asylums Board, and on many other boards peculiar to the physician. Seeing the need for closer association of physicians, both from the economic and scientific point he was one of the founders of the Okmulgee Clinic, rated now as one of the most successful in the state.

On his retirement the American College of Surgeons placed him on the life membership roll without further payment of dues as a recognition of his work.

The Medical Department of the State University celebrated in approved manner their assignment to Class "A" in the galaxy of worth while medical schools. Oklahoma City was the tenderer of clinics at the University Hospital, followed by luncheon to the students and visiting physicians; the day being closed with a banquet at the Skirvin to more than two hundred friends of the school.

Clinics at the University were held by: Drs. J. S. Hartford, Gynecology; C. J. Fishman, A. B. Chase, A. W. White, Lea A. Riely, and J. T. Martin, Medicine; A. A. Will, LeRoy Long, Surgery; A. D. Young, Neurology; W. J. Wallace, Urology; E. S. Lain, Dermatology, and E. S. Ferguson, Eye, Ear, Nose and Throat.

After lunch the students exhibited a highly original parade. The banquet at the Skirvin was ably presided over by student Leonard C. Williams, while the hit of the evening's after-dinner offerings was delivered by another student, Claude Norris, Junior Medic from Leflore County; unanimous verdict of the listeners was that a high class political spellbinder had been spoiled in the attempt to make a doctor of him. His witty and impromptu address kept the gathering in constant good humor and laughter. Short addresses were delivered by Drs. Le Roy Long, Dean of the Faculty, L. A. Turley, Assistant Dean; A. K. West; C. A. Thompson, and Honorable A. N. Leecraft, State Treasurer, who assured the boys they could have anything they asked for, that he had the money. Ex-Governor R. L. Williams, one of the strongest forces constructing the State Hospital, which made elevation of the school possible, unable to be present, telegraphed congratulations, making the significant statement: "This was due its medical graduates of years gone by as well as the people of this state."

DOCTOR HENRY H. WYNNE.

Dr. H. H. Wynne, Oklahoma City, died February 22 from pneumonia following influenza. Interment was made at Oklahoma City.

Dr. Wynne was born in Pennsylvania September 21, 1860. He graduated from Columbia University College of Physicians and Surgeons, New York, in 1880, after which he practiced in Texas and El Reno, moving to Oklahoma City fifteen years ago. He is survived by a wife, two sons and a daughter.

DOCTOR HERBERT H. GIPSON.

Dr. H. H. Gipson, Oklahoma City, died February 11th as a result of influenza. His remains were interred at his old home near LaGrandia, Missouri.

Dr. Gipson was born at LaGrandia, Mo., in 1880, graduating from Washington University, St. Louis, in 1907. Locating in Eric, Oklahoma, in 1908, where he practiced until 1912, when he moved to Oklahoma City where he has since lived. He is survived by a wife, mother, sister and brother.

DOCTOR WILLIAM MARTIN JOHNSON.

Dr. W. M. Johnson, of Peckham, died in Oklahoma City, after a surgical operation, February 13th. He was 65 years of age, graduating from the University Medical College, Kansas City, in 1900.

Dr. Peckham is survived by a wife, two sons and two daughters.

DOCTOR ROBERT S. WILLARD.

Dr. R. S. Willard, Ardmore, died at Lakeland, Fla., March first, after prolonged illness following influenza.

Dr. Willard was born in 1866, graduating from the Medical Department of the University of Nashville in 1899. He had lived in Indian Territory prior to Statehood; was health officer of Ardmore. Answering the call for physicians for army service, he was one of the first to be commissioned from that city. His death occurred while he was enroute to Cuba where he hoped to recover. He is survived by his wife, three sons and two daughters. Interment was made at Ardmore.

MISCELLANEOUS

COMMITTEES FOR OKLAHOMA CITY MEETING,

May 18-19-20, 1920.

Committee on Arrangement of Hospital Clinics. Representing State University Hospital, Dr. J. F. Kuhn, Chairman; St. Anthony Hospital, Dr. C. R. Day; Wesley Hospital, Dr. W. W. Rucks; Baptist Hospital, Dr. J. E. Harbison; City Board of Health, Dr. W. H. Miles; Lying-In Hospital, Dr. W. A. Fowler; Committee at Large, Dr. M. M. Roland.

Committee of Local Assignees to Assist Section Chairmen in Conducting Section Programs. Section of Surgery and Gynecology, Dr. C. E. Clymer; Section of Pediatrics and Obstetrics, Dr. W. M. Taylor; Section of Eye, Ear, Nose and Throat, Dr. L. M. Westfall; Section of Genito-Urinary and Skin Radiology, Dr. Rex Bolend; Section of Medicine, Nervous and Mental Diseases, Dr. Ray Balyeat.

Committee on Meeting Places and Exhibit Spaces. Dr. C. R. Cunningham, Chairman; Dr. C. N. Berry, Dr. Earl S. McBride.

General Arrangement and Finance Committee. Dr. A. B. Chase, Chairman; Dr. H. C. Todd, Dr. M. E. Stout.

SCOTT FERRIS' TRIBUTE TO THE AMERICAN DOCTOR.

In a speech before the Kiwanis Club, at Muskogee, several weeks ago, Hon. Scott Ferris, Congressman from the Sixth Oklahoma District, paid the following eloquent but deserved tribute to the services and accomplishments of the American medical profession in the World War:

"The achievements accomplished in medical science and the self-sacrificing, actual service rendered by the American doctor in the fiery furnace of the world's most terrible war have made the place in history of the great profession of medicine safe and secure for all time.

"This glorious achievement should not only make the doctors of the land proud but should make every American proud. Medical science did its full part; medical science bound up the Nation's wounds. They did a man's part in all that the term implies. May the God of the Universe prosper them; encourage them and bless them. A grateful republic owes them a debt of gratitude which cannot and will not be forgotten. All hail to America's doctors.

"Figures taken from the Congressional Record show that there were 30,591 doctors in the service. Six hundred and six of this number came from Oklahoma. The death rate in the Spanish-American War was 19.46 per thousand—in this war 15.86 per thousand of which 12.43 per thousand were from influenza and pneumonia. Seven and forty-four hundredths per cent of wounded men in the Spanish War died of wounds and only 6.15 per cent in the World War. This is considered exceptional in view of the great advance that has been made in the military agencies of destruction and to which our overseas forces were subjected to an exceptional degree during our participation in the hostilities."

AT THE NEW ORLEANS MEETING.

Motion pictures showing the surgical uses of Dichloramine-T will be displayed at the April A. M. A. meeting at New Orleans, by the Abbott Laboratories, of Chicago. All physicians attending this meeting are cordially invited to see these and other interesting pictures of recent medical and surgical procedures.

OFFICIAL CALL.

To the Officers, Fellows and Members of the American Medical Association:

The seventy-first annual session of the American Medical Association will be held in New Orleans, Louisiana, from Monday, April twenty-sixth to Friday, April thirtieth, Nineteen hundred and twenty.

The House of Delegates will convene on Monday, April twenty-sixth.

The Scientific Assembly of the Association will open with the General Meeting held on Tuesday, April twenty-seventh at 8:30 p. m.

The various sections of the Scientific Assembly will meet Wednesday, April twenty-eighth, at 9 a. m., and at 2 p. m., and subsequently according to their respective programs.

Attest:

Alexander R. Craig, Secretary

Chicago, Illinois, February twenty-first.

Alexander Lambert, President.

Hubert Work,

Speaker, House of Delegates.

LAYING DOWN THE LAW.

The young wife regarded the breakfast table with a critical eye.

"Phyllis," she said sternly to her handmaiden, "how often have I told you that when you lay eggs you must lay spoons too."—*London Tit-Bits.*

WHAT THE WAR DID FOR MEDICINE.

Many splendid records were made in the war, by the American army and navy. Not one was more creditable or more significant of blessing to the world than one which appears in the reports of the Surgeon General. It is, in brief, that the total number of deaths in our army from typhoid fever, from September 1, 1917, to May 2, 1919, was 213. That was approximately one in every ten thousand men.

What that means may be indicated by two comparisons. If typhoid fever had been under no better control than it was 20 years before, in the Spanish war, there would have been not only 213 but no fewer than 68,164 deaths from it. Again, the death rate from typhoid among adult males in civil life in the United States was considerably more than twice as high as in the army.

The explanation is simple. From the close of the Spanish war to 1909 the number of typhoid cases in the army ranged from 9.43 down to 2.94 to the thousand. In 1909 voluntary inoculation against it began to be practiced, and the next year the rate dropped to 2.32. In 1911 the inoculation was made compulsory with the result that in that very year the rate fell to .85, and by 1914 it got as low as .04 to the thousand.

It was inevitable that with the enlistment of millions of men in the great war, the typhoid rate should increase, because of the enormous influx into the army of uninoculated men. Yet in 1917 the number of deaths was only .03, and in 1918 only .05, in the thousand, while at those very times among adult males in civil life the number of deaths were respectively .11 and .09 to the thousand.

That is to say, in 1907 among a million soldiers only 30 men died of typhoid, while among a million male civilians of the same ages as the soldiers, no fewer than 110 died of the same disease.

The value of this achievement must be recognized by all.—*Harvey's Weekly*.

MART TOWNE.

I once knew a man named Mart Towne, who was wasting away with illness. Meeting him one day, I suggested a remedy.

"I can't try your suggestion for some time," he replied in a weak voice—"so many others are in ahead of you.

The man died before he got round to my remedy. Here was a man who had had good advice for years, yet he grew thinner steadily and finally died with a great stock of good advice on hand he had been unable to try.

THE RECORD STANDS.

A careful reading of Admiral Sims's charges so far as published shows that they run exclusively along the line of alleged failure of the Navy Department to co-operate fully with the Allies during our participation in the war.

Charges so general and of such a character may and doubtless should impress Congress as worthy of most rigid investigation. But they will fail to impress the American public as either sensational or disturbing in the slightest degree. This is because they tend to impeach the general record of American naval co-operation in winning the war, and that record is entirely beyond impeachment. It is known, it is internationally admitted, it is broadly established in actual fact, it is as secure as the past is secure.

When the record shows that our naval co-operation made the blockade of Germany as perfect as anything of the kind could possibly be; when it shows that thereafter the German High-Seas Fleet went into permanent hiding as against even occasional forays; when it shows that the tide of the submarine war turned instantly and completely against the Germans with that co-operation; when it shows that under convoy of the American Navy through enemy-infested seas the life of not a single American soldier was lost among the many hundreds of thousands transported across the Atlantic—no amount of Congressional investigation can prove failure to co-operate fully in the winning of the war.

"Knocking" the navy or the army for personal purposes, knocking for professional purposes, knocking for partisan purposes, is no doubt to be expected after a victorious war as often in peace for no higher purposes. Mistakes have almost necessarily been made which none the less may call for serious investigation, that the future may profit from the past. But in the large sense of naval co-operation, probable cause for investigation has not been shown and cannot be shown. There is the record, and it stands.—*N. Y. World*.

ELECTRO-THERAPEUTIC WEEK IN KANSAS CITY.

Dr. Burton B. Grover will deliver his second course in Electro-Therapy at the Little Theatre, May 24-26. Dr. Jefferson D. Gibson of Denver will give a special demonstration of his technique in Tuberculosis. Classes limited to those who register in advance. The Western Electro-Therapeutic Association will meet May 27-28. Address, Dr. Charles Wood Fassett, Secretary, Kansas City, Mo.

4-5 1920

A COMPLICATED VISAGE.

A very homely man returned to his native town in the South after fifteen years' absence. One of the first to recognize him was an old negro.

"So you remember me, do you, Pomp?" said the homely man.

"Couldn't nebber forgit yo' face, Marse Hammond, nebber," grinned Pomp. "Hit's so kinder complicated."—*Boston Transcript*.

IT'S A GREAT LIFE!

Harry—Old Miserly worked hard and long, but he finally succeeded in amassing a fortune.

Hugh—Yes; he now has enough money to pay his doctor bills the remainder of his life.—*New York Evening Post*.

NEW BOOKS

Under this heading books received by the Journal will be acknowledged. Publishers are advised that this shall constitute return for such publications as they may submit. Obviously all publications sent us cannot be given space for review, but from time to time books received, of possible interest to Oklahoma physicians, will be reviewed.

INDUSTRIAL MEDICINE AND SURGERY.

Industrial Medicine and Surgery, by Harry E. Mock, M. D., F. A. C. S., Assistant Professor of Industrial Medicine and Surgery at Rush Medical College. Octavo volume of 846 pages with 210 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth \$10.00 net.

The author of this very unusual work presents the conclusions born of long service in industrial work giving great opportunity for practical experience in this field, which has grown progressively vexatious to the employer, and corporations faced with the responsibilities incident to our phenomenal industrial development. His work does not deal alone with the emergency surgery of the plant, but invades every problem arising to employer and employee. It is as much a message to the lay employer of men, as to the physician serving employees. Compensation laws, hygiene, physical examination, propaganda to avoid accidents, court decisions, poisonings, chemical hazards, employees associations and many other subjects are considered. Malingering in its multiple aspects is noted. "Compensable" hernia is widely treated; "traumatic" hernia included, with the belief that it does occur from direct force or injury, but agrees to the opinion of many surgeons that they are very rare.

With Deaver and Moorhead, he agrees that traumatic appendicitis nerve occurs, and is convinced that permanent traumatic displacements of the uterus never follow direct violence.

To those of us constantly observing the exaggerated claims of disreputable attorneys; called to court as witnesses; helpless observers of unbelievable fraud; almost universally believed and compensated by the jury, the book will be most interesting and useful.

THE SURGICAL CLINICS OF CHICAGO.

The Surgical Clinics of Chicago. Volume IV, Number 1 (February, 1920). Octavo of 231 pages, 83 illustrations. Philadelphia and London: W. B. Saunders Company, 1920. Published Bi-Monthly; Price per year: Paper \$12.00; Cloth \$16.00.

This issue contains many interesting clinic reports, especially to be noted are:

"The Inguinal Route in Femoral Hernia," by Eisendrath, after the method of Moschcowitz. Essential features being: Incision as for inguinal hernia; treatment of contents; sac drawn up through femoral opening; effacing femoral ring by suture through Cooper's, Poupart's and Gimbernat's ligaments. Advantages are, more room in cases of strangulation or incarceration and more accurate closure.

"Congenital Pyloric Stenosis," by Alfred Strauss, is presented by a technic claimed superior to that of Remstedt as giving less mortality.

"Circumcision: Technic of Local Anesthesia," by Golder McWhorter, offers worth while suggestions on this too often considered trivial matter. He urges half per cent procain, no constriction, avoidance of tension by injection, nerve blocking preferably, preservation of vessels, certain asepsis and dressings.

Limited space precludes note of many other interesting subjects.


THE SURGICAL CLINICS OF CHICAGO. Volume III, Number 6 (December, 1919). Octavo of 215 pages, 63 illustrations and complete index to volume 3. Philadelphia and London: W. B. Saunders Company, 1919. Published Bi-Monthly; Price, per year: Paper \$10.00; Cloth \$14.00.

OFFICERS OF COUNTY SOCIETIES, 1920*

County	President	Secretary
Adair	S. R. Evans, Stilwell	Jos. A. Patton, Stilwell
Alfalfa		
Atoka		C. C. Gardner, Atoka
Beaver		
Beckham		
Blaine		J. A. Norris, Okeene
Bryan	A. J. Wells, Calera	J. L. Austin, Durant
Caddo	Geo. C. Campbell, Anadarko	Chas. R. Hume, Anadarko
Canadian		J. T. Phelps, E. Reno
Carter	R. O. Early, Ardmore	Robt. H. Henry, Ardmore
Choctaw	G. E. Harris, Hugo	Reed Wolfe, Hugo
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Coal		W. T. Blount, Tupelo
Cotton		C. W. Alexander, Temple
Craig	Louis Baghy, Vinita	R. L. Mitchell, Vinita
Creek		H. S. Garland, Sapelga
Custer	K. D. Gossam, Custer City	O. H. Parker, Custer City
Dewey		
Ellis		
Garfield		L. W. Cotton, Enid
Garvin	J. R. Callaway, Pauls Valley	N. H. Lindsey, Pauls Valley
Grady	H. C. Antle, Chickasha	U. C. Boon, Chickasha
Grant		
Greer	G. W. Wiley, Granite	J. B. Hollis, Mangum
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Hughes		
Jackson	E. S. Crow, Olustee	J. B. Hix, Altus
Jefferson	W. M. Browning, Waurika	J. I. Derr, Waurika
Johnston		
Kay	J. C. Hawkins, Blackwell	I. D. Walker, Blackwell
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Latimer	G. A. Kilpatrick, Wilburton	J. F. McArthur, Wilburton
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THE IMPORTANCE OF DIAGNOSIS IN OBSTETRICAL PRACTICE.*

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TULSA, OKLAHOMA

There is an old saying that "He who knows syphilis, knows medicine," and it might well be said, that he who knows obstetrics, knows both medicine and surgery, and is therefore entitled to qualify as a general practitioner.

This is a broad statement, however, and I make such acknowledgment as an apology to the internist and surgeon, appreciating that it is through the wonderful advancement in medicine and surgery that obstetrics has gained a place among the recognized specialties. And, furthermore, while it is seemingly paradoxical to say, that to know obstetrics (that is to have special knowledge in that line) entitles one to qualify as a general practitioner, it is true, and to say so, casts no reflection upon the good general practitioner, for to be a good one, he must needs know obstetrics, for the conditions which make him essential have at the same time given him his greatest work and field for study in that branch of practice.

Diagnosis, if you will pardon me for being didactic, is derived from both Greek and Latin. *Dia*, a Greek word meaning through, or by the means of, and *gnosce*, a Latin word, meaning learning, have been combined to form diagnosis, signifying literally the process of learning. Then we use the same word to designate the conclusion or opinion drawn from this process of gaining knowledge, and it is in this double significance that I wish to discuss the importance of diagnosis in obstetrical practice.

It is equally as important that the obstetrician should know and recognize the normal conditions pertaining to pregnancy, labor, and the puerperium, as it is that he should be able to diagnose abnormal conditions.

Very often it is important that we be able to determine whether or not we are dealing with a case of pregnancy. It may be said with truth, that time will tell, and we all remember the discussion that was aroused over the reliability of the Abderhalden test for pregnancy. Some, no doubt, recall hearing or reading the comment that it mattered little whether a test for pregnancy was developed, because the cessation of menstruation quickening, and the elapse of a few months time, were sufficiently reliable. In a majority of cases, these means would be satisfactory, but let me cite a case; A young woman 28 years old. One pregnancy, labor and puerperium normal, except that labor was terminated by low forceps delivery, nursed her babe until it was one year old. Menstruation began two months after weaning of child, and although not so free as before pregnancy, was

*Read before Tulsa County Medical Society. Nov. 10, 1919.

regular. After five or six periods, ceased menstruating, and thought she was pregnant again. After missing two periods, she consulted her physician, complaining of extreme weakness, constipation, and frequent urination, all common complaints in beginning pregnancy. She was not examined, but was questioned about her appetite and digestion, and replied that she had an excellent appetite, but that the constipation and intestinal gas annoyed her. A laxative was prescribed and she was assured that she would get along allright and feel better after she advanced in her pregnancy.

Four months later, in the absence of her regular physician, she was seen by another who found that she was not pregnant, and had not been so: that she exhibited symptoms of air hunger, and her urine showed a high percentage of sugar; a few days later she became comatose and died.

While this was a grave case, and had a correct diagnosis been made early, the final outcome might have been the same, yet a life might have been prolonged, and the feeling upon the part of this woman's family, and many of her friends, that doctors in general were a bunch of guessers, might have been avoided, had the first doctor made a diagnosis instead of a guess. Here, I wish to say that a routine examination made with care and recorded, will save many embarrassing and serious blunders in the handling of pregnancy or suspected pregnancy. I have known a number of sad cases of pseudocyesis, carefully watched, and watched for by the doctors. I say sad! They were sad, for the doctor, but serious for the patient. Serious, because of the shock, both mental and physical. Every routine examination should be preceded by a careful history taken and recorded. A subjective symptom recorded in the history may substantiate or contradict a physical finding or objective symptom to the extent of turning doubt into decision.

Routine examinations impel one to be systematic. Special training or years of experience, tend to develop a habit of routine, but there are two kinds, the complete and incomplete. Keeping abreast of the times will enable one to develop a complete system of examination or diagnostic technique. I feel that too much emphasis cannot be put upon routine examination in obstetrical practice, for by it, tactile sense and power of observation, the best instruments in the armamentarium of the diagnostician, can be developed to a degree which will enable him to make fine distinctions and to evolve accurate conclusions.

I once heard Dr. A. C. Kimberlin, a prominent internist, of Indianapolis, say that he was inclined almost to deplore the popular use of laboratory methods in diagnosis, for the reason that so much dependence had been put upon them, and that the old special sense methods had been neglected, and had fallen into disuse, and many general practitioners, well trained in physical diagnosis, had become timid in the presence of the man of laboratory training.

I mention this, not to discredit laboratory methods of diagnosis, but to emphasize the importance of all agencies.

Just how or why, I do not know, but nearly every pregnant woman has been made to believe that next to having a doctor present at her delivery, it is most important that he examine her urine. Admitting that a complete chemical and microscopic urinalysis is important, I wish to say, however, that holding it up to the light in the presence of the patient, and asking if it was the first that she passed in the morning, even if supplemented by an actual chemical examination for albumen and sugar, may not give the slightest hint of an impending eclampsia, for in some cases, albumen cannot be detected in the urine within three days before the onset of convulsions. However, the presence of casts, or a history of headaches, perhaps transient and slight dizziness, swelling of the feet, which does not decrease at night, or is accompanied by puffiness of the eyelids or face, disturbances of vision, nose bleed, nausea, ringing of the ears, muscle twitching, or fainting spells, are, any of them, symptoms for serious consideration, although one or more of them occurring in cases which terminate without serious trouble are common.

The taking of the blood pressure is important, in primipara, and can be relied upon to warn of eclampsia sooner and more certainly than can urinalysis. But without symptoms one must not be alarmed at a moderate increase of blood pressure for nearly every case of pregnancy has an increase of pressure toward the end of gestation. This is due probably to normal changes in the glands of internal secretion. It has long been known that the thyroids, the pituitary bodies and suprarenals become hyperemic and hypertrophic during pregnancy. According to De Lee, as long ago as 1898, Comte noted an increase in the size of the pituitary bodies during pregnancy, and ten years ago, Erdheim and Stummé demonstrated by examination of twenty-five pituitary bodies from women who had borne children, that there were permanent changes, and that the pituitary bodies did not undergo involution, so that it is said that a skilled pathologist can diagnose a former pregnancy from examination of this gland as certainly as can a gynecologist do so by a tear of the cervix.

If all symptoms or conditions associated with pregnancy carried with them the same degree of importance or significance in every case, we would be able to standardize them and each impending complication would have its set of cardinal symptoms and diagnosis would be much simplified. For example: A common condition attendant upon pregnancy is dental caries. So common is it, and so little attention has it received, from those who practice obstetrics, that the saying, "for every child a tooth," is accepted as gospel by the laity.

Salivation, acid in reaction, and gingivitis, both symptoms of toxemia, precede caries, toothache, neuralgia, and serious digestive disturbances. Dental caries with suppurative gingivitis is undoubtedly the cause of some so-called idiopathic puerperal sepsis. If taken early, it can in most cases be stopped, and in all cases be relieved.

Pelvimetry is important in obstetrical diagnosis and has been made particularly so by the present tendency toward Cesarean section. While cesarean section is indicated under other conditions than deformed and contracted pelvises, there is the danger, in adopting an elastic policy with regard to this radical operation, of getting too far away from conservation, of losing skill in diagnosis and of bringing this valuable surgical procedure into disrepute. Pelvic measurements should be made along with the regular routine examinations of every primipara and in multipara with a history of dystocia not known to have been due to causes other than defects of the bony pelvis. There are other examples in support of the importance of complete routine examination of the pregnant woman with careful attention to the findings, but I feel that sufficient emphasis has been put upon it, and I wish to discuss briefly a point or two, in connection with diagnosis in labor and the puerperium.

The question of the method of examination has been discussed, and perhaps more attention has been given to diagnosis during labor, than during the period of pregnancy, because it is then that the immediate necessity of knowing what is going on is upon us. There are the advocates of digital examination per rectum, and those who oppose it and contend that vaginal examinations are safer and more efficient. While I have never developed familiarity with the rectal method of examination in labor, I can see that it would be possible for one to develop considerable skill. He might even be able to approach the accuracy of judgment of the man trained in vaginal examinations. However, if one depends entirely upon internal digital examinations to determine presentation, position, station, and dilatation, one method has very little advantage over the other, especially in a prolonged case, with the usual many and frequent examinations, except that the rectal examiner need not scrub up but once and that should be before going home.

The method of examination of the woman in labor which gives the greatest amount of essential information with the least danger of infection and disturbance of the patient is the best method. External examination, supplemented by vaginal examination with the gloved hand and careful attention to asepsis, meets these requirements.

External examination can be made to determine with essential accuracy the presentation, position, and station of the fetus, and the degree of dilatation of the cervix without the aid of vaginal examination, in all but a very small percentage of cases. Vaginal examinations are necessary in case of early or expulsive rupture of the membranes in anticipation of prolapse of the cord; also in case of antepartum hemorrhage; in any case of known or suspected mal-presentation, and when one has not had the opportunity of knowing that the birth canal is normal previous to the onset of labor.

These exceptions for vaginal examinations I will admit are few, and if accepted attribute greater possibilities to external diagnostic technique than it is generally accorded. However, in substantiation of this contention, I will discuss briefly the matter of determining presentation, position, station and cervical dilation. In all cases except those complicated by hydramnias, extremely thick abdominal wall from obesity or edema, and of fetal monstrosities, the attitude, that is, the location of the back of the fetus with relation to the right, left, anterior, or posterior aspect of the uterus, together with the relation of its long axis to that of the long axis of the uterus and position of the fetal head, and degree of extension, can be determined by palpation and location of the point where fetal heart tones are most distinct.

The attitude of the fetus in utero is particularly important in determining the presentation, and presentation, namely, longitudinal and transverse, determine the presenting part, that is, the part felt in the cervix, by the examining finger on vaginal examination.

Roughly speaking, in two-thirds of all cases where the head presents, the back of the fetus is to the left of the mother, and this corresponds with the fact that, in head presentations, the occiput position occurs on the left in 70 per cent of the cases, and is nearly always anterior, while in the other 30 per cent where the occiput occurs on the right it usually is found posterior, and again we have the 30 per cent of the occiputs right, corresponding closely with the 33 1-3 per cent of cases being in the *dorsum dextra*, or back to the right attitude. It is also known that in the majority of cases of *dorsum dextra* the occiput will assume a right posterior position in the pelvis.

Partial or complete rotation of the occiput into a posterior position, when it occupies the right side of the pelvis, accounts for many cases of slow labor, and it is in these cases that we are inclined to make frequent vaginal examinations, and yet unless the head is well down upon the pelvic floor, or we are dealing with a large and roomy pelvis, we all know how futile it is to attempt rectification of the position with any certainty that it will remain where it is put. I will not discuss the handling of this condition, but mention it to show that it accounts for many vaginal examinations as useless as watching the pot to make it boil.

Therefore, given a knowledge of the attitude and presentation together with a clear conception of the mechanism of labor, that is a clear idea of the forces which influence the transit of the fetus through the birth canal, it will seldom be necessary to make more than one vaginal examination during labor.

If one has always depended upon vaginal examinations to determine the progress or degree of dilation of the cervix, he is apt to be sceptical about accepting the statement previously made, that it could be accurately diagnosed by external examination, that is, by watching the contraction ring. Personally, I doubted, during the first few years of practice, the efficacy of this method and thought vaginal examinations sufficiently safe and satisfactory. However, feeling chagrined by hearing and reading references to it, by men of prominence and good training, as if it were an accepted routine procedure, I was driven to investigate it, and will admit that being in a mental attitude of the proverbial Missourian, I made a great many vaginal examinations, for comparison with my observations or findings with regard to the contraction ring, until I became satisfied that when I found what I would describe as a depression just above the pubis running across the lower segment of the uterus, that there was dilatation of the cervix, and that the width

of this so-called depression, expressed in finger breadths, corresponded with the same number of fingers dilation of the cervix ascertained by vaginal examination.

The upper border of this depression is marked by a definite firm cord-like band which is the contraction ring, and the depression is the passive lower segment of the uterus. A sudden widening of this depression or rise of the contraction ring during labor is a reliable warning or indication of something wrong. This occurs whenever dystocia develops as a result of abnormal presentations, or in case of rupture of the uterus. The detection of the contraction ring is not difficult in the majority of cases and it is an important diagnostic aid. As previously stated, vaginal examinations are necessary, but the fewer one can get along with the better.

The puerperium in nearly every case presents questions which tax the diagnostic ability of the obstetrician. There is the differential diagnosis between puerperal septicemia and sapremia. Cystitis may develop as the result of injury, direct infection or pyelitis and its treatment depends materially upon determining the cause. I have known pyelitis, during pregnancy, however, to be treated for typhoid fever. I also knew of a puerperal woman being curretted three times before she changed doctors, and it was learned that a mastitis had been overlooked and had developed into a large breast abscess. Perchance the first doctor was looking for part of the placenta, which in all probability he failed to examine when it was delivered. Sub-involution prolongs the puerperium and is nearly always the result of overlooking a cause which might have been removed. Perhaps carelessness, rather than inability to diagnose conditions relating to the puerperium, accounts for the many errors, but their seriousness and frequency only emphasizes the importance of diagnosis.

The new-born babe comes under the care of the obstetrician, frequently with many questions to be solved, therefore increasing his responsibilities as a diagnostician.

I will not attempt to summarize this discussion, but wish to say that diagnosis is knowledge. By knowledge we are guided in our care of the obstetrical woman. It should be as near to complete knowledge as it is possible for us to acquire. Many factors arise for consideration in the handling of an obstetrical case. Mentality, temperament, and social status, as well as the physical conditions of the obstetrical woman, make their demands upon the judgment of the obstetrician. If we are to hold obstetrics above the reach of mid-wives, chiropractors, and some optometrists, we must know obstetrics, that is, be obstetrical diagnosticians.

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SPIROCHAETA PALLIDA.

The effect of weak acetic acid on spirochaeta pallida has been observed by Herman Goodman, New York (*Journal A. M. A.*, March 20, 1920). When using the solution to hemolyze blood in the attempt to remove the spirochaete, the organisms were much changed, had lost their coil and were immotile. The author came to the belief that it was unable to live in an acid environment and that such might be of use in the prophylaxis of syphilis. He intends to carry on the investigations on animals, and to determine whether the acetic acid penetrates more deeply into tissue such as the mucosa than the others.

PITUITARY EXTRACT IN OBSTETRICS.*

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SUPPLY, OKLAHOMA

The subject of Pituitary Extract, as treated from an obstetrical standpoint, is one we find, from reviewing the literature, very poorly discussed. It is one, because of the extensive use of the drug, worthy of painstaking consideration. To be in accord with present-day status of medicine, we should possess concrete ideas as to its clinical significance. Because that Dr. Jones uses it with wonderful success is no reason why I should use it with no better explanation than: "I use it with good results." It is paramount that we know what we are using from a physiological standpoint as well as a therapeutical.

It is needless to say here that there is an abundance of literature upon this extract in conditions other than obstetrical; for there are various conditions in which the use of it has been found beneficial. But as an oxytoxic, the condition which the great majority use it, we are only left to accept the theories and exhorting recommendations of the manufacturer. Most of which, I dare say, are unreliable; for, between lines, we read their views of science—a smooth scheme of advertising.

There are few physicians today who have not used the extract in their obstetrical practice, and most of whom are prepared to speak upon it from their experience. But far less who can give you definite data as to its true physiological action. Most of us know that it will stimulate uterine action at the time of labor, but just how it does it the most of us have never taken the pains to investigate, but are satisfied to call it the "Forty Minute Dope" and rely upon it to hasten labor in the majority of cases.

In order to have a better understanding of the drug with which we are dealing, perhaps a brief review of the anatomy of the gland from which the extract is obtained will not be amiss at this time. Pituitary extract is obtained from the pituitary gland through a process known to biological chemists. The gland of the sheep is that of preference.

The pituitary gland is located in the base of the brain and occupies the sella turcica of the sphenoid bone. It consists of two lobes: the anterior or large lobe, and the posterior or infundibular lobe. The boundary between the anterior and posterior lobes is occupied by a zone of modified glandular tissue, the pars intermedia. The anterior lobe is kidney-shaped and receives the posterior lobe in a hilum-like depression on its posterior surface. The entire gland is ensheathed within a loose fibrous capsule, except for the part of the infundibula which is attached to the floor of the third ventricle, from which it arises, and is attached by means of a small pedicle. The two lobes are separate and distinct, and differ very materially histologically. The posterior lobe is developed embryologically from the diencephalon, the inter-brain, and is made up of nerve tissue; while that of the anterior is developed from an invagination of the oral cavity, and is therefore glandular in structure, having for its function that of an internal secretion aiding nutrition.

This gland has long been a puzzle to anatomists, and has been described as the meeting of the epiblast, the hypoblast and the mesoblast, at the extremity of notochord. Various theories have been advanced in the endeavor to explain the office it has within the human economy. The extract of the whole gland has been employed in various conditions. Likewise from the lobes separately. To demonstrate that the potent, active principle is within the posterior or infundibular lobe. It is claimed that the extract from the anterior opposes that of the posterior lobe.

The exact physiological action of the extract upon the uterus has never been definitely settled. There is a difference of opinions—each of which seems feasible

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and logical. There are some who claim it to stimulate the uterus indirectly through the uterine centers of the spinal cord; others claim that it is a direct stimulant to the uterine muscle fibers alone; while there is a strong element in support of the effect it has upon the blood pressure in general, which, at the time of labor, is capable of being markedly intensified within the uterus. It would seem most acceptable that it is either an indirect or a direct stimulant to the uterus, because of the fact that, were its effect due to the raising of the blood pressure alone, we could obtain the same results from a dose of epinephrin, which has been demonstrated to have little if any effect upon the pregnant uterus. It is a fact that it does raise the blood pressure, but that, in all probability, is due to its power as a nervous stimulant in increasing cardiac action.

The mode and time of administering the extract as an oxytocic is a matter that cannot be governed by any set or group of rules. In using it, one thing must be held out clearly—that there be no marked abnormalities. One should select his cases, and where there is the least contra-indication proceed with caution.

There is but one rational way of administration, and that is hypodermically. The extract as prepared by most of the standard firms comes sterilized and hermetically sealed in ampoules of $\frac{1}{2}$ cc. to 2 cc., in liquid form, and ready for use. It can be used intramuscularly. Some claim that it can be administered injected into the os uteri, with the same results as to uterine stimulation, with no attendant raise of blood pressure, and is the mode *par excellence* for its oxytocic effect. I cannot reply to this, as I have never so administered it. The subcutaneous method is that most practical, and will suffice for all occasions.

I cannot tell you when to administer the extract in order to obtain its best effects in every given case. Each case is a rule almost, within itself. We are advised never to use it except in normal cases, where you have a soft, dilatable os. If this be true, and the only rule, we could use it in a very large percentage of our cases.

In 50 cases which I made a few notes upon, I used it in 33 cases. Of those 50 cases I had the following presentations: 1 face; 1 footling; 3 breach; 3 right occiput anterior; and 42 left occiput anterior. Deeming the left occiput anterior the normal presentation, 84 per cent of my cases were normal; but I only used the pituitary extract in 66 per cent of all cases, two of which were breach, and with as good results as if they were cephalic. However, we know there is danger in using it in abnormalities, yet given a case, the status of which is excellent, and there is no obstruction which would prevent labor otherwise, as we often find in a simple breach presentation, give small doses and increase as the case may demand, is not malpractice, but is relieving a condition very necessary to relieve. It is in such cases that it is most praiseworthy. In normal cases where there is no occasion for interference, we can see no good reason to employ it unless it be to conserve time, upon which I will have something to say later.

There is a condition which is mentioned, and that is uterine inertia, which many claim to be the only condition for which it is indicated. The presentation being normal, and the pains having stopped or become very feeble, it will certainly work wonders. However, it will not stimulate pain where there is none. I mean to say, if there are no true labor pains (false alarm, in other words), one had best give that much water. Also, engagement has something to do with the character of its effect. If there is no engagement, but feeble pains, to administer a dose will only cause much restlessness in the patient, and in some instances, hinder the true process of labor. It causes contraction and not dilatation. Hence, if there is no engagement to aid dilatation of the os, the probabilities are there will be a tense contraction of the os, which you will either have to overcome forcibly, or wait hours for relaxation.

The best rule is to have a soft, dilatable os, with engagement and true labor pains. I say true labor pains, for we very frequently meet with conditions which would seem that we have a soft os and engagement, but wait, if you please, for

the pains; and it will be a week, sometimes a month, before true labor sets in. Again, I have noticed that, having all these things, we get better results if the sac is still intact, and not a "dry labor," as it were. However, I have used it with splendid results in the so-called dry labors. Everything being equal, a dry labor is no contra-indication; but often time, with primiparas, who are other than trained in the art of child-bearing, and who dread to press the collar, yet anxious to see their own likeness in the being of their first offspring, it is a friend indeed of great magnitude.

As to complications, I have used it more than one hundred times, and I have never observed a single case of the so-called hour-glass contraction. I believe that I have administered it in every stage—at almost every point in the progress of labor—and nothing have I seen that would resemble an hour-glass contraction. I do not deny that such is not the case, and I certainly refrain from laying down the gap in so broad an assertion as to say that such will not likely occur once in one thousand cases; but it is possible that it could occur in case after case successively. I have observed a tense contraction of the os that, in some instances, I have had to overcome by forced dilatation, which, had I not used the extract, at that certain time, would likely not have occurred.

I have noticed that certain ones stand a very much larger dose than others. This in itself is a rule to observe, and in order to avoid giving too much until you have learned the temperament of your patient, it is best to start with perhaps 1-4 cc., and increase as occasion demands. Some practitioners think that 1-4 cc. is ample dose at any time. I use it from 3 minims to 20 minims; and in one case administered 2 full cc's. Too large a dose will cause in many instances a spastic contraction (tetanus uteri), and will have to be overcome by the administration of an anesthetic almost to the point of complete anesthesia. A graduated dose will work beautifully, and by which you can avoid most of the so-called complications arising from the use of pituitary extract.

In complications associated in pregnancy and labor it is malpractice to use it in uremic or eclamptic conditions, or any other conditions where there is a high blood pressure. It is likely, should we take the blood pressure in all our cases, we would learn that in these cases which do not stand the drug so well there would be higher blood pressure than in those who have a better toleration of the drug. I would not think for a moment that any benefit could be derived from the use of the extract in cardiac conditions where an increased stress upon the heart would be a contra-indication. But in post-partum hemorrhage we have a much better remedy than ergot or any of its derivatives. It is more easily administered, and the effect is much quicker and more gratifying.

In one given case, who gave a history of severe flooding in previous labors, and one in which I had the chagrin to witness, I administered a full cc., at the end of the second stage. The placenta came away in due time, with no more hemorrhage than should have been. Thirty minutes thereafter I gave the second dose, and in another hour the third dose. There was no more hemorrhage than normal.

I have never had a retained placenta on account of contraction of cervix. I had one case which I thought was a case of this kind; but being called again to attend her in another confinement, and having the same experience without using the extract, I came to the conclusion that it was not the extract; and if ever called again to attend her, and think that I need to use it, I shall not hesitate, as far as that matter is concerned.

In the 50 cases which I have made notes upon, I used the extract in 33 cases. Twelve of them were primiparas. The average age of the 50 cases was 27 years. That of the primiparas was 24 years. The others it was 31 years. I used the extract upon 10 of the primiparas, and 23 of the multiparas. The average number of births with those upon whom I used it was 4, and with those I did not use it, was 6. The time used in these 50 cases was about 225 hours. The average hours in which I used the extract was about 4 hours, while with those in which I did not

use it, the average time was 6 hours. I considered the time from the time I left for a case until I returned. This shows a saving of two hours in every case. In about 50 per cent to 75 per cent of your cases, even using discretion and selecting your cases, you will be able to conserve from one to several hours, saying nothing of the extra gravity attending the mother in a continuation of labor. So, as referred to before, to use the extract with judgment and precaution, you will have an agent of conservation of time to the accoucheur, and energy, pain and discomfort to the expectant mother.

With the advent of pituitary extract and the automobile, the practitioner has not reached his zenith, but an epoch in his life which saves him many, many needless hours as an accoucheur. They are life-savers. I had rather be caught without my forceps than without an ampoule of pituitary extract. In many instances, 1-2 cc. has dispensed with the use of forceps. Yes, life-savers—to him in the conservation of hours of worry and loss of sleep, and to the expectant mother in lessening that duration of nerve-racking strain concomitant with all labor.

DISCUSSION.

Dr. W. A. Fowler, Oklahoma City: I have been interested in the study of the use of pituitary extract in obstetrical practice for many years, and have read, with a great deal of interest, much literature on this subject. It occurs to me in connection with this paper, that any one who uses this drug in labor, ought to do certain things:

1st. He ought to study carefully the physical features in natural labor. It seems to me that it is one of the present day miracles that the child and mother may go through the ordeal of labor in most cases without serious danger to either patient. It is interesting to study the processes of natural labor. During the contraction of the uterus the blood is, in large part, squeezed out of the placental site and there is necessarily a diminution in the source of supply of oxygen for the baby, but Nature does not allow this contraction to last a sufficient length of time to seriously jeopardize the baby's life. Natural labor pains rarely last for more than one and one-half minutes. Nature undertakes the expulsion of the baby with a great deal of force, it is true, but withal, with wonderful gentleness and consideration for the delicate organism within the uterine cavity. The careful obstetrician will not recklessly and seriously interfere with the processes of natural labor. When we read reports of a majority of the author's patients being subjected to a treatment which seriously alters the natural process of labor, we wonder if it is intended that we should draw the conclusion that the Almighty was wrong when He designed the plan of natural birth.

2nd. We should study the effect of the drug upon our patient. Now, the part of the pituitary body from which the active principle of this drug is derived is of little consequence to the average practitioner. The important thing for him to recognize is that this drug does stimulate uterine contractions, that it makes them closer together, of longer duration and stronger. I have seen a contraction of three and one-half minutes following the use of three minims of this drug. During this time there is a very marked interference with the placental circulation. There have been reported a number of cases of rupture of the uterus following its use. The soft parts, which according to the natural plan, should be given time to stretch, are frequently seriously and unnecessarily lacerated, and if we use this agent indiscriminately we must accept the responsibility for the large amount of morbidity that must follow these results.

3rd. We should study carefully the fetal heart tones following the administration of this drug. Frequently with the prolonged uterine contractions I have observed a pronounced effect upon the fetal heart tones. Fetal heart tones that have been 120, 130 or 140 per minute, regular and distinct, have been slowed down to less than 100 and become irregular and indistinct. These are the symptoms of

the asphyxia to which the baby is subjected on account of prolonged uterine contractions. Ashy colored, flaccid children in the degree of asphyxia livida have frequently noted.

4th. The birth canal should be carefully examined at the completion of labor, and subsequently, to determine the degree of birth injuries and the morbidity that may be expected following this practice.

Finally, we ought to study carefully the teachings of the leaders in obstetrical thought on this subject. These authorities are generally agreed that pituitrin should not be used except in the second stage of unobstructed labor with uterine inertia. By the second stage of labor we mean that the cervix is *fully* dilated, and if the cervix is *fully* dilated it will have passed beyond the largest part of the head, and therefore beyond the reach of the examining finger. If we presume to diagnose unobstructed labor, we must plead guilty to being excellent obstetricians. The best of obstetricians will have difficulty in saying with certainty that in a given case the head can be forced through quickly without serious injury to either patient. And then, uterine inertia is a rare condition if the labor has been properly managed. The mere fact that the head does not advance rapidly does not mean the existence of uterine inertia. The delay usually means that Nature has met a reasonable obstruction to delivery, and Nature endeavors to overcome this by a gradual and gentle moulding of the head and stretching of the soft parts. We should certainly not say that uterine inertia exists, until we have, with watch in hand and one hand on the fundus, noted carefully the duration, the frequency, and the severity of the labor pains.

If we take all these precautions, I believe that much of the enthusiasm for this drug will have been dissipated. As used today, I believe that it is one of the most frequent sources of maternal morbidity and of fetal death and morbidity that there is, and I believe that within the course of a few years we, as a profession, will be sincerely ashamed of the abuse of this excellent remedy, in present obstetric practice.

Dr. Doler, closing: I have nothing special to say only I desire to thank those who have so liberally discussed this subject. I think it one, as mentioned in the paper, because of the extensive use of the drug, worthy a careful consideration. I admit, as I endeavored to express in the paper, that much harm can come from the injudicious use of the drug; and because of this fact I appreciate fully the argument in controversy which some have seen proper to enjoin. I wish to say it was for this as much as that I endeavored to convey that prompted me to present this paper before this section at this time. I thank one and all, but most especially the gentleman from Oklahoma City who so broadmindedly left out the personal "I" and gave us such valuable facts, both pro and con as he has. However, I do not agree with him in every particular, but you know, gentlemen, it has been the friendly controversy in medicine that has promoted it to its high rank of the day.

CAUSATIVE FACTORS IN EYE CONDITIONS*

S. C. DAVIS, M. D.

OKLAHOMA CITY, OKLAHOMA

After noting the results of the hurried diagnosis and treatment method of a bustling clinic and the chronic cases that make the rounds to clinics and offices and return later in the same condition and in many cases worse, has caused us to realize that more consideration should be given as to cause.

Comment by Dr. Teal of Lincoln, Neb., that we are still following the beaten path, in an etiological way, when we might be developing knowledge, if we would but arouse ourselves to the importance of constant effort in the hunt for the morbid agent of each case as they come to us.

Why should we have been so slow to grasp the idea of reflex eye diseases when many cases of ocular disturbance attributed to dental origin date back to 1842? A case reported, very clear and pointed, by Dr. H. B. Young, of Burlington, Iowa, twenty years ago, of a woman convalescing from abortion became totally blind, was restored to normal vision after exclusive diet of calomel and castor oil.

There is no question as to our following the line of least resistance when we realize how many years we were satisfied with the theory that a strumous diathesis of the system was the cause of phlyctenular ophthalmia. Then for many years the universal belief was that this was due to tuberculosis and there is no doubt but that a majority of the cases are due to tuberculosis. Hird found in a school for the partially blind at Birmingham, five hundred and five cases due to phlyctenular ophthalmia, and in fifty-two per cent of these, tuberculosis was found elsewhere in the body.

There are, however, many cases found in apparently healthy children and the cause in these cases will often be found due to ethmoiditis. Dr. H. H. Turner, of Pittsburg says that the essential lesion in these cases is due to a low grade chronic infection of the ethmoidal labyrinth with obstruction to drainage which usually follows some of the diseases of childhood.

The reflex eye conditions of the intestinal digestive function are possibly due to a congestion of the nasal mucous membrane causing a stasis of the lymphatics. Dr. Bell presented a case of bilateral papilledema before the New York Ophthalmological Society. Some gave cause as brain tumor, others Bright's disease, on account of urinary findings. Trephine was recommended. But after a study of the case and thorough curettment of diseased ethmoid and sphenoid sinus, the condition cleared up and also the kidney lesion.

Irritation of the terminal branches of the fifth nerve excites such reflexes as spasm of accommodation, restriction or paralysis of accommodation, spasm of the orbicularis, heterophoria, asthenopia and amblyopia, many times with negative ophthalmic findings.

Dr. Black, dental surgeon, explains the ocular manifestations of reflex dental origin and states the cause to be an irritation of a vital pulp of a tooth, usually of thermal origin, hot or cold, food or drink, or contact of a foreign substance when the pulp is exposed. He points out that an exposed pulp may be infected and yet remain vital for a long time.

Dutrow's case, a woman twenty-two years of age, headache, vomiting, complete paralysis of external rectus with spasmodic contraction of the levators of the opposite eye, entirely relieved by the removal of an impacted third molar.

Uveitis is the most frequent type of ocular inflammations attributed to focal infection. Rosenow considers localization to the iris and ciliary body not accidental but that there is a gradation from an abundant to a poor blood supply predisposing to localization and growth of bacteria.

*Read in Section on Eye, Ear, Nose and Throat, Annual Meeting, Muskogee, May, 1919.

Mrs. D. gave a history of having had trouble with her right eye for five years without relief and for the past eighteen months has been very uncomfortable with headache, conjunctivitis, recurrent attacks of pain in eye, shallow anterior chamber, media cloudy, fundus velvety, tension normal or subnormal, vision O. D. 10-200, O. L. 20-24. A crowned bicuspid on the right elicited pain on percussion but the x-ray was considered negative except showing an unerupted cuspid. The crowned tooth and the unerupted were removed and found to be partly denuded of periodontal membrane. One slight attack three days after extraction was reported but since has had no further trouble.

Dr. Dabney of Washington, D. C., reports several cases of chorioretinitis which were entirely relieved by removal of tonsils and remnants of tonsils that were infected. The term rheumatic iritis may still be used, but few there must be who do not search for and remove the foci of infection as they would for the cause of rheumatism in other parts of the body.

As the prefix will be discarded in rheumatic iritis, so will it be dropped from nephritic retinitis, as the eye condition is certainly caused by the same exciting factor as the inflammation of the kidney.

As the study of the ductless glands are revolutionizing the practice of medicine, so will it be found that many conditions of the eye are due to a derangement of function of internal secretion. From the report of Dr. Jones of Cumberland, Md., of many cases of retinitis pigmentosa which were cured or markedly improved with thyroid extract, it would seem that the cause of this condition had at last been discovered. This seems to be very feasible when we note the marked increase in the number of cases among the soldiers in active service which was reported by some to be eight per cent, while in peace times, one to twelve thousand. The reason being given that the emotion and continued excitement caused an hypersecretion and later exhaustion.

Dr. C. L. Lowman, orthopedic surgeon of Los Angeles, in a paper entitled, "The Effect of Faulty Skeletal Alinement Upon the Eye," states that many cases with astigmatic errors and faulty eye balance seem directly related to the amount of irritation from malalignment of the shoulder girdle and the cervico-dorsal spinal area.

In the eye records of fifty cases reported in the regular course of orthopedic practice it was noted that seventy to eighty per cent of them showed marked muscular imbalance, whereas in an equal number of unselected cases presented for refraction not more than five per cent of them showed deviation to a similar pathological degree; and in each case showing this deviation, obvious postural defects existed.

The outstanding feature of the eye examinations was muscular imbalance, frequently of high degree. The prevalent imbalance being that due to adduction weakness or abduction excess, usually associated with hyperphoria. Many case reports show improvement and cure of the eye conditions after the treatment of the spinal alinement.

Where do we stand as to intra-ocular tension? Maggiore found that there was no connection between the anterior chamber and the canal and that in normal conditions the canal contains only lymph. The intra-ocular vessels, the uveal tract being an erectile tissue blood reservoir, which regulates the pressure and the vessels are regulated by their nerves which are the cervical sympathetic or its ganglion. Could not the results of a broad iridectomy in relieving tension be explained other than by aiding the supposed filtration angle of the anterior chamber?

Does not pilocarpin relieve tension by its action on the nerve endings which control the vessels instead of drawing the iris away from the angle of the anterior chamber? Stimulation of the cervical sympathetic will cause dilatation of the pupil.

And thus reasoning, might we not conclude that some irritation of the sympathetic is responsible for increased intra-ocular tension?

THE VALUE OF THE CONSULTANT IN MEDICINE TO THE GENERAL PRACTITIONER.*

C. J. FISHMAN, M. S., M. D.

OKLAHOMA CITY, OKLA.

The need of men who have a broad conception in medicine was recognized by the writer early in his medical studies when it was noticed that in the large dispensaries many persons applied for examination who were not in reality classed as needy or charity cases. Usually, these individuals who belonged to the middle classes, when questioned, explained that the reason for their appearance at the dispensary service was that they were able to get a better examination and a better opinion than they could afford with the medical men available to them.

It has often been pointed out that only the very rich and the very poor are able to obtain adequate medical care. The rich presumably get the best, but unfortunately, the highest priced specialists, although frequently the most capable in their profession, are individualistic in their work and often unorganized in their relation to men working in other fields. The work of these individual specialists is not correlated and, consequently, consultations are often prefatory and unsatisfactory to both physician and patient. The poor man gets the best that medicine has to offer. He may attend the free clinics where all branches are represented and is carefully examined by various clinicians. The work is done with one object in view, namely: investigation of the particular patient, and when the findings are obtained, the conclusions and opinions are carefully weighed. In this way, the enthusiast is restrained and the patient obtains the fullest benefit from the individual work of each specialist. The patients of the great middle self-supporting class, in which ninety per cent of sick people are to be found, probably obtain the worst of medical care. They cannot afford to pay the fees necessary for high-class specialists, nor will they stoop to accept charity service and are most often not in position to obtain it even though available on account of lack of time. They are often compelled to accept incomplete examinations and therefore erroneous deductions and inappropriate treatment.

The man who specializes in a single limited branch of medicine and often sees cases from his own viewpoint to the exclusion of the whole organism, will frequently focus his vision on his own specialty. The attending physician who interprets the condition of his patient from such a viewpoint, will sometimes draw false conclusions. These reports or opinions might be added to or subtracted from if the patient is seen from all angles. Limited consultation is also expensive and this tends to make doctors employ them only when necessary. The most ideal method would be for the various specialists who have examined a case to discuss their opinions from their own point of view and to allow the conclusions to be drawn by a man who has the ability to size up a situation from a broad viewpoint.

The clinic idea as carried out in the large medical centers approaches this ideal best. However, inasmuch as most patients are far removed from such medical centers, individualistic consultation will continue to be most popular and most needed, certainly until the general practice of medicine will have changed materially. The need, therefore, for the development of the individual physician along the principle of the ideas in diagnosis which will make that individual a better consultant, and will be of greatest benefit to the patient as well as to his physician.

The ideal method for the examination of a patient whose sickness requires consultation would be to have a most thorough investigation of the case carried out. Most mistakes in diagnosis arise from three possible pitfalls: insufficient attention to the history, neglect in the performance of a complete physical examination, or lack of skill in the interpretation of the findings. To a certain degree, diagnostic errors are unavoidable, but their frequency is diminished by the routine

*Read in Section on General Medicine, Annual Meeting, Muskogee, May 21, 1919.

practice of a careful history, a thorough physical examination and mature judgment in interpretation. The principle which the individual consultant can carry out differs only in degree, but not in kind, from the method carried out in a clinic, and that is a careful searching study of the patient. Proficiency can be acquired and maintained at the highest level only by constant practice and by the steadying influence of corrected or confirmed opinion developed, whether by autopsy, surgical observation, or careful watching of the progress of the case.

The time is fortunately rapidly passing when a single symptom, namely, the principal complaint of the patient, suffices for the making of a diagnosis. In the past, when a patient complained of a cough or a pain in the back, no diagnostic difficulty was felt. It was proper to institute treatment at once in accordance with some supposedly universal principle or dogma. The public is rapidly learning that such methods are not always satisfactory or productive of results to the patient. They often find that the conditions which at first sight appear simple may be complex, and the patient pass from physician to physician and from specialist to specialist to seek relief.

The difficulty of diagnosis in individual cases must therefore always be kept in mind no matter how simple they seem at first. As study is continued, the findings gradually shape themselves and finally fit into a definite picture of a disease complex. The development of methods of study and observation in medicine has brought out the intimate fact that when a patient is sick, his illness is not usually local but may involve several systems of the body. Particularly is this true in cases of chronic illness.

An accurate record of the patient's past and present history is of the utmost value for the proper consideration of the data elicited on examination. This fact has been clearly brought out in a report from a large well-organized diagnostic clinic, in which it was observed that from a carefully obtained history they were able to make a positive diagnosis of the primary major condition in fifty-three per cent of the cases seen, and of the secondary condition in forty-one per cent. The most prominent symptom complex is not always the one upon which a prognosis can be based. For example, gastric ulcer or a chronic appendix may come up for surgical treatment. Conclusive evidence is found of the condition, but on careful routine examination active pulmonary tuberculosis is discovered. Operation is not recommended and the final diagnosis is primarily tuberculosis and secondarily the surgical condition.

In the largest clinics that have primarily been built up on their surgical reputation, the percentage of surgical cases that are immediately operated is comparatively low, while those recommended for primary medical treatment, thus improving the patient's condition and making operative procedure safer, is unusually high.

A complete written record of the patient's case is of the greatest value in order to check up errors and avoid pitfalls. From such a report, errors in judgment as to the conclusions that may be drawn, are reduced to a minimum. A complete examination necessarily includes the usual laboratory methods that are available and considered routine, as well as the unusual methods of examination that are sometimes necessary to bring out hidden points. It is surprising and almost unbelievable how many of these examinations can be carried out directly at the bedside. The time required to investigate a case thoroughly, even at the bedside, varies naturally with the type of examination needed in an individual examination. However, as a rule, any examination that takes less than two hours in which a careful history is not obtained previously, is usually insufficient upon which to base findings.

The consultant in medicine should know enough about the methods of all the medical and surgical specialties to realize how to value their application in a given case. Often he must seek the co-operation of one or more skilled special examiners upon whose findings he can rely, but it is the consultant who in the last

analysis, must interpret the significance of these findings in relation to the particular patient. The duty of the consultant, therefore, is to survey the patient as a whole psychological organism, whereas the specialist may limit his study and confine his attention to a greater or less portion of the functions of the body.

Patients who seek advice from physicians do so to obtain relief from certain symptoms from which they complain, and expect that their physicians will advise them what method to pursue in order to get rid of these symptoms, whether by the means at his disposal or by methods which he must seek from men in other lines. The physician who refuses consultation saying that the patient who has him needs no one else is a menace to the community. Such egotism is deadly to the patient. The man who deliberately refuses all consultation fears for his own reputation and cares nothing for the welfare of the patient. The physician who has only the good of his patient in mind never fears scientific investigation by careful methods.

There are a number of distinct benefits arising from a good consultation: first, an accurate knowledge of the development of the case is obtained, hence we have a satisfied patient; second, the patient will receive a more precise result; third, the confidence of the community in the general practitioner is increased, and fourth, the practice of medicine is raised to a higher plane.

FOREIGN BODY IN NOSE.

I. W. Voorhees, New York (*Journal A. M. A.*, March 6, 1920), reports a case of a colored man, aged 34, who came to the West Side Dispensary, with a history of yellow discharge from the right nostril for the previous two months. The condition was first assumed to be caused by a necrotic bone sequestrum from the naso-antral wall following a tertiary lesion. When the substance was grasped with the forceps, a solid heavy object was slowly withdrawn which proved to be an iron bolt, which the patient had used for a breech in an improvised gun barrel seventeen years before. When loaded and set off this breech plug flew back and was never found. It was 2 1-8 inches long and 1-2 inch wide, and it weighed a little over one ounce. It seems hardly possible that a man could carry in his nose so large a foreign body for seventeen years without being conscious of its presence, but there is no denying the fact that this happened in this case.

SUPRAPUBIC OPERATIONS.

E. W. Watson, Buffalo (*Journal A. M. A.*, Feb. 7, 1920), after remarking on the difficulties of getting good illumination of the vesical cavity in suprapubic operations, describes and illustrates an instrument devised by him. It is also capable of being used for evacuation of the fluids by suction. "The composite instrument is composed of a hollow sheath with a perforated tip (on the order of the cystoscope with the Brown curve), into which is fitted an obturator. This is inserted into the urethra and passed through into the bladder after the patient has been placed on the operating table. A strip of adhesive plaster across the thighs of the patient and attached to the instrument keeps it in place. The obturator is then withdrawn, and the hollow illuminating and evacuating tube is passed into the sheath and securely fastened. By a suitable stopcock any urine is withdrawn and the bladder filled with water, antiseptic fluid or air, as may be desired, preparatory to the suprapubic cystotomy. By an electric cord attachment the current is now turned on, and the bladder is outlined by distention and illumination." He has found this instrument useful during the last two years in certain suprapubic work.

TYPHOID FEVER.

C. M. HARRISON, M. D.

COMANCHE, OKLA.

Typhoid fever is a synonym for ignorance, indifference, carelessness, insufficiency, insanitation and over-crowding.

Nowadays when typhoid fever is mentioned, we think of prevention ;and incidentally, of war; because the greater part of our knowledge of its transmission, prevention and eradication originated during war; and because war is the great iconoclast of fossilized ideas medically and sociologically. It dethrones the idols of an effete civilization and estalishes the higher ideals of a new. Traditions are overthrown, theories abandoned for facts, conditions economically improved, inventive genius stimulated, efforts of research invigorated, civilization advanced and humanity benefited.

It removes the inefficient and the unfit, depletes a super-saturated population of its moss-grown high brows, energizes new thought, activates food productivity, increases the birth rate, lengthens the life span, and a new civilization is born.

The '60's gave us the birth of a nation, the '80's modern medicine, the '90's sanitation, the accouchement of a new world is now being completed, and doubtless the next decade will be christened with a new era in medicine.

It remained for the Spanish-American war to teach the cause and transmission of malaria and yellow fever; that the latter is not contagious, and, incidentally, to dig the Panama Canal. It taught us that typhoid fever is not essentially a water-borne disease, but only accidentally and carelessly so. Instead, it taught us what Prof. Jos. E. Leidy, of Philadelphia, believed a half a century ago, that flies are its chief disseminators. So that we now know that the common house fly and the open toilet are the great offenders.

This was most forcibly demonstrated to us at Chickamauga Park among our soldiers during the Spanish-American war, when more of our boys died from typhoid fever than were killed in the war.

Instead of sewerage they had open latrines. The commissaries and mess tents were unscreened; myriads of flies swarmed in the latrines and flew to the tables, crawled over the food, resulting in one of the worst and most noted epidemics the country has ever known.

As usual, the water supply was the first to be indicted; but, happily, it easily proved an alibi; analysis proved it unpolluted.

Lime then was sprinkled over the latrines, and soon after flies were seen crawling over the tables and food with lime on their legs and feet.

Investigation revealed the typhoid germ on their legs and feet and in the trailings over the food the boys were eating.

The latrines were filled up, everything screened, flies exterminated, and the epidemic very promptly and automatically ceased.

Who made or suggested this investigation I have never learned, but whoever it was is entitled to a statue in the Hall of Fame, his name emblazoned upon the page of undying memory. For deeds of less valor men have received the greatest plaudits of earth, before them, monarchs have stood uncrowned.

May his name "be forever bright, when stars and suns have sunk in night."

This finding of unpolluted water and the fly carrier was an eye-opener.

It was like the "hand writing on the wall." It was the iconoclastic blow to the age-old, crystalized, tongue-lolled, water borne idea of typhoid acquisition. It made people think some. It made medical men sit up and take notice. It was a death blow to guess work and theories. It was an epoch in medicine, the beginning of a new sanitation, the health of armies, the birth right of humanity; and I dare say that it enabled us to win in the World war, and save the ensign of Liberty from Germany's accursed empiricism.

This was the origin of the fly-swatting crusade, though it took ten years for it to soak into our heads. Prophylactic vaccination soon followed. Had it not have been for the war and the armies possibly we would not have had them yet. All of us, who were in the practice before the advent of screens know of the great reduction of typhoid cases since. Economically, if the Spanish-American war had done nothing more, this was worth more to the world than all the money and lives lost in the conflict. Great minds of all ages have ascribed the real epochs in civilization to the beneficent effect of war. It retires the past and visualizes the future.

Don't understand me to say that typhoid fever cannot be water borne, it can and is; but for some posing erudite to prate raucously about the pollution of creeks and wells, ignoring or minimizing the danger of a country full of open toilets and swarming flies is little less than criminal.

We must not get too enthusiastic about vaccination either. It alone will not stamp out typhoid. There is another element to be reckoned with, all too often overlooked or forgotten; and that is the typhoid carrier, and the typhoid excretor or host. For a time, every one who has typhoid fever is a typhoid host, and possibly as long as he lives.

A typhoid excretor is one who has had typhoid fever and who still retains the germs in his anatomy somewhere, gall-bladder, kidney, etc., and goes about excreting them from these organs. A typhoid carrier may be one who has never had typhoid, but carries the germ around like a healthy person carries the pneumococcus or the meningococcus, giving it to others but never having the disease himself. They are all typhoid hosts. Some people have been known to have carried the germ around in their anatomies for seventy years.

We all know about typhoid Mary. Likely there are thousands of people in this state today who are walking distributors of the typhoid germ. Every time they have a bowel movement they deposit a bunch of them, then a few flies, a non-immune, and the job is done. Some carrier infected Chickamauga Park.

Roddy says: "that one in five hundred to one in five thousand inhabitants of a community are carriers, and that these are responsible for from 20 per cent to 50 per cent of all typhoid infections."

Did you ever have a bunch of typhoid cases out in the country where you could not account for the source of infection, but upon closer investigation learned that a relative or friend who had had typhoid was paying or had recently paid them a visit? I have had such cases.

Fornet says: "55 per cent of all typhoid cases are transmitted by hosts exclusive of the many cases derived from water, milk or food that also have been contaminated by hosts."

It is claimed that four times as many women as men are carriers; we also know that four times as many women as men have gall-stones; therefore, some one has suggested that, as the female anopheles transmits malaria, woman is the typhoid mosquito.

This is my contention; that by far our greatest source of typhoid infection is flies and human carriers, and that its water-borne source, except as contaminated by these hosts, is relatively negligible.

My contention in regard to vaccination is, that the immunity is short lived; is not absolute, that every person who has typhoid fever is an infected person until he is disinfected. He is an excretor, a carrier, a host, a potential if not an actual factor in its distribution, and until they are disinfected are walking distributors, continually dispensing and scattering it all over the country; and the typhoid vaccination does not disinfect them. Disinfect the carriers, the hosts; vaccinate the non-immunes and keep them immune by timely repeated vaccination, then in the coming milleniums we may hope for a comparative but not absolute freedom from typhoid; for, from whence the germ first originated it can come again. It is more important to discover and disinfect the carrier than vaccinate the non-

immune. Because if we have no infected people we will have no typhoid. It is said that 70 per cent to 75 per cent of carriers give positive Widal reactions. That cultures may be obtained from the feces and urine, and from the bile after a Weber oil-breakfast. These tests are not specially difficult and should be made by any practitioner.

Typhoid fever is a disease of ignorance. "It is said that of every 100,000 well-to-do people, 100 die yearly; of wage earners, 150 die, while those in poverty, 350. These are not due to poverty so much as to the mental and physical defects which cause the failure in the struggle for existence. The well-to-do are born with brains and energy."

Typhoid fever is a disease of over-population and over-crowding. The population of a country is always under-saturated, saturated or supersaturated. A saturated population is where the food production and demand are commensurately balanced.

In over-populated places the food production is not sufficient to go around; people go hungry, energy fags, the scale of sanitation declines, filth increases, flies multiply, the typhoid carrier arrives, then the epidemic; the penalty of over-crowding. "For disease is to a certain extent a natural result of over-population, for the least fed are the least resistant to disease, and disease and death increase as we go down the scale of inefficiency."

The success of our efforts to eradicate typhoid fever, I may postulate, depends upon sanitary efficiency, education of the people, a permanent vaccination immunity and the detection and disinfection of the infected. This is a real man-size job; no spectacular stunts will succeed.

It is a moral crime to induce people to flock into crowded towns and cities where they are incapable of meeting the necessary health living conditions only to pay the penalty of over-crowding. Disease and death is Nature's method of relieving such congested conditions.

Unfortunately we have no absolutely reliable, easy, early, practical diagnostic test for typhoid fever; unless it be the Russo test and the blood culture test. The latter is reliable, can be used early, but it is not always available and does not meet the desired practicability.

The Russo test is said by its admirers to give positive results as early as the second day. I have never tried it this early, but it will give the reaction in typhoid fever; the difficulty with me is to correctly recognize the tintings. I have to keep an artificial emerald in my office for comparison. It is positive in measles, small-pox, chronic and suppurative tuberculosis, but negative in varicella, miliaria T. B., appendicitis and malaria. Uralilin reacts to this test which must be remembered.

In typhoid fever the B. P. is lowered, the neutrophil and eosinophil percentage is decreased, generally there is a leukopenia; symptoms that are valuable in differentiating from some obscure cases of appendicitis.

In uncomplicated cases of typhoid fever there is always a relative brachycardia. It is said that a continuous tachycardia never exists in uncomplicated typhoid; and when it does the thyroid is usually at fault. A change from a relatively slow to a fast pulse always means some complication, and if the change is sudden, most likely a hemorrhage; rarely an acute dilatation of the heart.

The Widal test is a good one, generally reliable, not particularly difficult, but is not positive until after a week or ten days when the agglutinins have formed, requires living cultures and the microscope and several hours for the cultures to grow.

The Mandelbaum test is claimed by those who are familiar with it to be reliable, its reaction occurs in three or four hours and some time before the agglutination tests give positive findings.

Mandelbaum claims that it is specific, that it never occurs with any other

serum except from typhoid patients. It also occurs with persons who have had typhoid but slower in reaction; also with typhoid carriers. It requires living cultures and a microscope. The technic is not difficult. I have never used it but I am going to try it out if I can get the cultures.

Personally, I prefer the Bass-Watkins Macroscopic test. It is simple, quick, inexpensive, reliable in 70 to 90 per cent of the cases after the first week or ten days can be made at the bedside or a month afterward. But it is an agglutination test, requiring the presence of the agglutinins in the blood before it is positive, so that it is of no early value. Neither does any other serum test unless it be Mandelbaum's.

The Bass-Watkins test is really a Widal test, using killed typhoid germs instead of living germs, and is seen with the naked eye.

None of the serum tests are valuable in those who have recently had typhoid, or who have recently been vaccinated.

Typhoid fever, like all other infectious diseases, is not cured by medicines, but by the antibodies; and as these cannot be produced strong enough, by the introduction of serums, etc., to overcome the typhoid bacilli nor their toxins, their use therapeutically has been a disappointment.

Prof. Rodet, of Paris, claims to have produced an anti-bacterial serum that has given good results, but most of his cases went along for three weeks or more, evidently he did not shorten the time very much.

Typhoid fever during the first week or ten days is a bacteremia; after that time the bacteria are chased by the agglutinins into the lymphatics; so until we get something that will stimulate the antibodies sufficiently strong to overcome them both in the blood and in the lymphatics, we have no means of cure.

Unlike the diphtheria bacillus, it does not have an exogenous toxin that is capable of being neutralized by an antitoxin, but has an endotoxin that is not liberated until after the disintegration of the bacillus. Any prospect, therefore, of an efficient anti-bacterial serum is encouraging.

In my opinion medicines have a very small place in the treatment of typhoid fever. It is necessary sometimes to give medicines for symptomatic purposes, but to give medicine theoretically and on general principles is to be condemned.

Some simple alkali to keep down the acidosis, plenty of water, a simple laxative to keep the bowels cleaned out, good bathing and proper feeding and rest, is all that is required in uncomplicated cases. I place little importance on the so-called intestinal antiseptics. Laxatives and proper feeding will obviate their use. Besides they don't antisept.

Generally the high temperature is an expression of an intestinal toxemia or some complication, like the involvement of the mesenteric lymphatics, gall-bladder infection, endocarditis, etc.

In my opinion, animal proteins have little place in a typhoid dietary. Their putrefaction in the intestinal tract is largely the cause of the toxemia, expressed in high temperature, tympany, delirium and other complications, the well known typhoid state.

I head my diet list with "No milk, no meat and no eggs." I give three, and not more than four, meals a day, not closer than four hours. This is as often as a well person should eat, and a typhoid patient can not digest any better than a well person.

I make out a diet list something like this, with instructions to vary the articles of diet every day or two: "Oat meal gruel well cooked and strained, with cream, sugar or butter; dry toast (two or three pieces) with or without butter, bread and butter; cream of wheat, corn meal mush or grits well cooked, with cream, butter or sugar; soups with toast or crackers; cereals with cream, potatoes well mashed; baked apples, apple sauce; corn starch or tapioca pudding; puree of beans or peas;

orange or pine apple sherbet; lemon or orangeade, soda pop; gravy with toast or bread."

This is a liberal diet, and any one not doing manual labor can live on it very well for a long time. As it is not necessary for a typhoid patient to build up much muscular tissue, and he will get nearly enough vegetable proteins in this diet to supply the waste, he will get sufficient calories from the carbohydrates to supply his needs.

I try to give them about 2000 calories a day in their feedings, I test their urine every three or four days for indican, which is always the result of protein putrefaction, and I never give milk until the urine is free from indican for a few days and then only buttermilk sparingly.

Some cases seemingly will have complications any way, the most dreaded but not the most frequent is hemorrhage. In these cases I stop feeding for a day or two, absolutely. We need no intestinal peristalsis here. In my experience, if we feed in these cases, the normal peristalsis will be reversed with troublesome vomiting and sometimes with peritonitis following. Above all things in hemorrhage we want complete rest. I always give a full dose of morphin and atropin at once, repeat the morphin if necessary, but keep up the atropin for some time for the purpose of keeping the peripheral blood vessels dilated. I have also had happy results from the use of emetin hypodermically. Ice locally, small quantities of water or ice frequently, prevention of bowel movement for two or three days, then a dose of oil about completes the management of my hemorrhage cases. I keep my cases in bed a week after the fever has left them; and on a low protein diet a week longer.

All typhoid fever patients should be isolated, screened and attended by an immune nurse, wearing a rubber apron and daily sterilized clothing. Her apron and hands should be frequently sponged in a bichloride or some other disinfecting solution. I like to use a good mouth wash with clean rags or paper napkins for towels and handkerchiefs so that they may be burned. For the disinfecting of the stools, I use a copper sulphate solution constantly kept in the commode, then bury the contents. It has been shown that copper sulphate will kill the typhoid germ in a dilution of 1 to 4,000,000.

ARSPHENAMIN.

According to J. A. Kolmer and Elizabeth M. Yagle, Philadelphia (*Journal A. M. A.*, March 6, 1920), who have studied and compared arspnenamin and neo-arsphenamin, all solutions of arspnenamin are hemolytic owing to the activity of arspnenamin itself. Solutions of arspnenamin in isotonic saline solution are more hemolytic than dilute solutions. Neo-arsphenamin is hemolytic in dilute solutions while concentrated solutions, such as 0.9 gm. in 30 c.c. of water or less are not hemolytic owing to the organic salts from the drug to render the solution approximately isotonic. To avoid hemolysis in the administration of dilute solutions of neo-arsphenamin sterile physiologic sodium chlorid solution in freshly distilled water should be used; when the concentrated solutions are administered sterile distilled water should be used. "The degree of hemolysis produced by the administration of arspnenamin may be lessened (a) by using instead of water sterile saline solutions of such strength as to render the solutions isotonic; (b) by avoiding the administration of concentrated solutions; (c) by carefully neutralizing and 'clearing' the solution with sodium hydroxid, counting the drops or otherwise measuring the amount necessary, and adding not more than a fifth of this amount in excess, and (d) by giving the injections slowly so as to permit gradual mixing and dilution of the solution with the blood."

TREATMENT OF TYPHOID FEVER.

M. V. STANLEY, M. D.

TULSA, OKLAHOMA

Chiefly as a result in general of so much typhoid fever in this country, I thought I would take up in general the treatment of typhoid fever. I am going to pass over some of the things which are so well known and fixed as to make them hardly suitable for discussion. In regard to the prophylactic treatment, no two people can disagree. In regard to the care of the body, clothes and the excreta, we can get up very much disagreement. I want to discuss especially the dietetic treatment of typhoid fever. Years ago the majority of physicians kept their patients on a strictly milk diet, and in my early beginning of medicine I thought that anything else than milk was rank poison to the patient. He was given milk and nothing else, and not much of that. The result of this treatment was that the patient simply loathed to see the nurse coming down the hall with a glass of milk. He became sick and tired, as a result the appetite became impaired and he took just as little as he could, and when he got through he was in a state of wretched nutrition. Patients then developed all sorts of complications. There was difficulty in keeping their mouths clean, bed sores were common, and they always got up emaciated to a marked degree. I saw a great many more cases of typhoid as an intern in Chicago than I now do and I learned there to do something besides feed the patient on milk alone.

Little by little physicians are becoming more liberal in their diet. But the majority of men up to four or five years ago kept their patients principally upon milk, giving them perhaps other fluids. Today there are men recommending food in quantities, a good deal more than the ordinary diet contains. I am opposed to the simple milk diet and the simple fluid diet, but am just as much against the over-feeding. *The old idea was that by keeping the patient on a strictly milk diet the fecal residue would be less, but that is not true. A man on a strictly milk diet will have hard fecal masses just as often as those on a more liberal diet.* In the first place, I allow them milk if they like it, often half cream and half milk; along with this I give them a lot of milk foods. I see no reason why ice cream should not be taken in any form unless it contains large quantities of fruit. Then we have the egg foods, they can be given raw, beaten up with milk, soft boiled, poached or coddled. Fried or hard boiled eggs are a little too indigestible for an ordinary patient, but a well-made omelet is very good, and I allow a patient to have one once a day if he likes it.

And then we have the cereals. Any soft cereal can be given. I allow my patients cream of wheat, oat meal or anything so long as it is pretty thin. I use milk sugar instead of cane sugar and consequently a patient will take more, and in this way get a good deal of nourishment. I do not know who first suggested this, but it is useful. I would like to recommend the use of soups, but in recommending soups, I don't mean what are commonly called "slops." Don't give the patient mutton broth or beef tea. The amount of nutrition contained in these is a negligible factor. I think the cream soups are much too little used; a cream soup, especially if it be given in a cup with whipped cream on top, will make a very delicious food which most patients will take greedily. One can use a heavy vegetable soup as cream of pea. Jelly preparations can be given, such as wine jelly or the ordinary tapioca mixtures flavored with different fruits. It is not much of a compliment to a physician to have a patient come through a fever if he has lost 25 or 30 pounds and it takes him a year to get back into nutrition. The dietetic treatment is all important? I am sure that I have seen patients literally starved to death—their nutrition so poor that they fell victims to some of the numerous complications. The diet I have outlined gives a very liberal menu and we can still add to it several other things. I see no necessity of giving meat, if so, calves' brain would be the best. We must not forget that the whole trend of investigation tends to show that food must be appetizing. The intervals of feeding should be

short. I don't feed them at night. The only exception I would take to this would be if the patient was so emaciated that I thought nourishment more important than sleep.

I saw a statement of Shattuck; it is to the effect that we don't see so much falling out of the hair as we used to following this disease. Shattuck attributes it to the fact that our patients come through the disease now in a much better state of nutrition. A great many men seem to think that when the temperature is coming down to normal that means the intestinal ulcers have healed; not at all; those who think this keep their patients on a low diet until the temperature comes down and then feed them anything. I don't make any change in my diet until the temperature has been normal for two weeks. If you can keep a patient in bed for this long a time and keep him on this diet all the way through, you will frequently find there has been little loss of weight.

We all know that antipyretics in typhoid fever are losing in favor and should never be given. The action of cold hydrotherapy, of course, is to contract the peripheral capillaries and you rub them so as to keep the capillaries well dilated.

As to the question of water, large amounts certainly dilute the urine and toxins. As to drugs, I give to every case a little dilute hydrochloric acid; it can't possibly do any harm. Most patients will have a little deficiency in hydrochloric acid; with this I give a little hexamethylenamin as routine. I think it is valuable in every case toward the end to make sure that the bacilli no longer exist in the urine. The most dreaded complication is a perforation; the first thing to do is open the abdomen. It is better to open an abdomen once in a while and find no perforation than to wait twenty-four hours and find that you did have a perforation, but that a general peritonitis has set in. Another serious complication is hemorrhage, and one of the things I do is watch the stool with the Weber test. If you find that the patient is having a little blood in the stool, and every day he is getting a little bit more, that warns us that he is on the verge of a larger hemorrhage. If the hemorrhage is sufficient to amount to anything and the pulse is becoming weak and thready, the thing to be done is give adrenalin. A suitable dose is 1.0 to 1.5 cc., of a 1-1000 solution hypodermically. It may be given in normal salt solution. If the hemorrhage is very great, the salt solution may be repeated and the foot of the bed raised. Morphine in a big dose should first be given.

Conclusions:

1. Always remember there is such a thing as prophylaxis.
2. The diet as outlined.
3. Give him all the fluid he can take.
4. Hydrotherapeutics should be utilized.
5. Drugs should not be given except as above mentioned.
6. Lastly remember it is a reflection on the treatment if the patient gets all sorts of complications and loses a great deal of weight.

ENCEPHALITIS LETHARGICA IN PREGNANCY.

Margaret Schulze, San Francisco (*Journal A. M. A.*, March 13, 1920), after remarking on the history of sleeping sickness of this type, which seems to have been anticipated 100 years ago in the mysterious "nona," reports a case occurring in a pregnant woman, aged 35 years. Only seven other similar cases have been found by her in the literature. Males appear to be much more liable to the disease, but the mortality in pregnant women seems particularly high, the only patient that recovered was the one whose case was reported by Neal, which is briefly abstracted. The author's own case is quite fully reported. The patient was apparently improving, but in two or three days she suddenly developed signs of pulmonary embolism and died in twenty minutes, twenty-six days after delivery. Postmortem examination revealed thrombosis of both femoral veins, and extensive bilateral pulmonary emboli which excluded almost the entire pulmonary circulation. Microscopic examination revealed the usual changes of lethargic encephalitis.

SHOCK: TRAUMATIC AND OTHERWISE.*

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My purpose in presenting this paper is to bring before you a few practical considerations, with reference to shock, especially the traumatic variety, that most physicians and surgeons are called upon at one time or another to treat. They are as a rule accidental in character, the result of automobile, factory, etc. In these one finds all stages or degrees, which in most instances require immediate and intelligent treatment in order that the life of the patient may be saved.

We all see patients in shock, but do we understand what the term means: First: shock is that condition present, in which there is collapse, the result of inhibition of brain cell activity, characterized by a fall in blood pressure, rapid pulse, shallow respiration, cyanosis or anemia, partial or complete loss of memory and partial or complete paralysis of muscles or groups of muscles.

Pathology: Very little change is noted in the body tissues. The first and probably the most important are those found in the brain cells. The cortical cells vary in number, size and shape, depending upon the variety or nature of shock. The histologic picture also varies in a great many cases of shock the result of trauma, predisposed by psychic changes or fright, as in falling from a high building or constant dread of an operation, the cells will be found to be fewer in number, irregular in outline, protoplasm almost free from Nissl substance, the nucleus pale and irregular in outline. No demonstrable change is noted in the nerve fibers. In the blood we find a relative proportion in number of red cells, with an increased amount of carbon dioxide or bicarbonate and a decrease of oxygen or carbonate in the arterial blood. Engorgement is present in the splanchnic area, hypostatic congestion in the lung tissue, flabby heart, loss of tone in both striated and non-striated muscle.

Etiology: May be divided into; Psychic, chemical, thermal, toxic, and mechanical. The latter probably the most common. Among the predisposing causes may be mentioned: First; Age, which plays a great part, as in the young baby at birth or under one week old has little or no susceptibility to shock as evidenced by the enormous pressure exerted during labor or extensive operations such as for harelip without anesthesia and absence of pain, pointing against the theory of some writers as to the cause of shock being the result of a toxic product, as will be mentioned later under a "Review of Literature," which may be accounted for by its lack of development of sensation or functioning powers. For the period up to twenty years, we say that they are very susceptible which will be accounted for by the extraordinary metabolic changes taking place, to meet the demands of new growth and exalted functionation. Any interference with nutrition, then, works a double havoc with the patient. From twenty to about fifty in the male the susceptibility remains about constant, after which it gradually increases, the result of dissipation, because as a rule the male is subjected to tobacco, alcohol, exposure, etc., more than the female. This is not the case with the female, for when the childbearing period is reached, her resistance is increased, especially for pain and for contemplating crises which might arise. The resistance in the multipara is certainly greater than that of the primipara, except during pregnancy. When the menopause is reached, the resistance is lowered, and once she passes this evolutionary stage safely, she enters into a long and unbroken period of quiescence, and her resistance is increased. Second; Climate and altitude is an important factor. Third; Time of day; Resistance is greater in the morning, since the vital centers are more active, the reserve forces at their maximum, the psychic factor at a minimum. The most unfavorable time is from 1:00 to 2:00 a. m. Night accidents are likely to give a more unfavorable prognosis than those of equal

*Read before Tulsa County Medical Society, April 12, 1920.

severity occurring during the day, and it must be remembered that more deaths occur after midnight than during the day from lingering illness. Fourth: Season; end of winter and beginning spring are unfavorable times. Fifth: Temperament; The languid more resistant than the nervous. Sixth: Occupation; The outdoor worker has a greater resistance than the man who does indoor work, except the athlete.

A review of literature shows that there still exists a difference of opinion with regard to the nature of shock. Goltz, it will be remembered, produced shock by simply tapping on the surface of the body of animals, which he regarded as a vasomotor reflex phenomenon. This theory has been substantiated recently by physiologists doing work along this line. Cannon states (Journal A. M. A., Vol. 70, page 617, 1918) that; Primary wound shock may come on as soon after injury as to be accounted for only as a result of nervous action and as pointed out in the earlier papers, the individual with acidosis is sensitized so that operation, because still further increasing acidosis and still further lowering the blood pressure, it becomes hazardous. It leaves unsettled the occasion for the primary fall in blood pressure, though the suggestion is offered that it may be of a reflex character. On the other hand, others adhere strictly to the toxic theory, the result of cell necrosis. Briefly stated, it may be said that there is cell necrosis. In this process, enzymes are set free into the blood stream, which cause it to undergo a process of autolysis. During this autolysis, split proteins are set free, which are extremely toxic and when liberated in large quantities, toxic shock, predisposed by trauma, may be produced. The latter theory mentioned, I believe, should be given those cases who undergo operation, where a considerable amount of unnecessary trauma is done, such as in diagnosing fractures or in a laparotomy, where all the intestines are exposed and handled in an effort to locate an appendix.

Symptoms: Those present will be given in order; First. Irregular, small, weak, rapid and compressible pulse. Cold, pallid, bloodless and often clammy or profuse cold perspiration. Shallow and irregular respiration. Low blood pressure. Subnormal temperature. Consciousness may be present or absent, coming on from the very beginning. If present, there is absence of mental originating power, talking only when spoken to. Motor weakness. Pupils dilated and react only sluggishly to light. Lids partly closed. Sphincter muscles relaxed, especially if there is very great shock and little or no pain.

Diagnosis: Is made by a history of accident, injury or trauma in operation, or by an improperly given anesthetic where deep cyanosis is maintained throughout the period of administration, together with the above symptoms, which may all be present or absent.

Prognosis: This depends upon a great many factors, such as age, sex, occupation, temperament, health, habits, extent of injury, degree of shock present together with the treatment. The prognosis is extremely grave in complete suppression of urine after an operation.

Treatment: Is divided into prophylactic and treatment proper. In the prophylactic, we must endeavor to, as much as possible, prevent shock. Brains must be used as well as instruments. One should remove the cause when possible, if such can be done without endangering the life of the patient. If an operation is necessary, procure a good anesthetist, and avoid long and unnecessary manipulation of tissue. Avoid chilling of patient while under the influence of ether and thereafter until recovery is absolute. The treatment proper consists of absolute quiet in bed, lower head of bed except when cyanosis persists, artificial heat to body in the form of blankets applied next to the patient, hot water bottles, care being taken not to burn the patient, supplying fluids to the body to replenish the volume in the circulatory system either by proctoclysis, hypodermoclysis or intravenous infusion, with the addition of adrenalin chloride 1:1000, drams one (1) to the liter of saline, if hemorrhage be the principal factor in causing same, counter irritation over the heart may be of some value and if persistent low blood pressure, bandaging of the extremities may be necessary. The medicinal agents

of value in their order: First. Opiates in some form unless there is profound shock, for the purpose of lessening pain, excitement and further prevention thereof. Second. Camphorated oil hypodermatically to regulate and maintain the respiratory function. Third. Caffeine may be of some value in persistent heart weakness. Fourth. Adrenalin by proctoclysis to increase the muscular tone of the intestine, thereby rendering same more capable of absorption, and elimination.

Management of the case: The patient should be isolated, especially from his own people when possible. Careful observation during the first forty-eight hours, and above all, be positive in your treatment.

In summarizing, I wish to impress upon you the importance of: First: Bearing in mind the causative agent or agents in producing shock, operative or otherwise. Second. The early recognition. Third. Pathological changes and especial reference to the prognosis in all cases, especially with a persistent lowering of blood pressure. Fourth. A satisfactory treatment instituted, and Fifth. Positive in your management.

PROCEEDINGS OF THE ST. ANTHONY CLINICAL SOCIETY.

DR. CURTIS R. DAY, President.

DR. J. F. KUHN, Secretary.

OKLAHOMA CITY

DEATH REPORTS.

Dr. E. P. Allen. *Pernicious Anemia. Pulmonary Tuberculosis.*

Mrs. C., housewife, age 38. Entered the hospital August, 1919, complaining of general weakness. She was fairly well developed and nourished and her skin was of a lemon yellow tint. Blood examination showed R. B. C. 1,040,000, Hgb. 30, Index 1.4, W. B. C. 2,500, Polys. 70, Lymphs. 30. Microcytes, macrocytes, poikilocytes, and polychromatophilia. Urine and other laboratory work negative.

Physical Examination. Dulness in left upper lobe of lung with fine moist rales in left apex and in the intercapular region. Spleen palpable. Physical examination otherwise negative.

From the blood counts and clinical findings, a diagnosis of pernicious anemia and possibly pulmonary tuberculosis was made in the absence of other sources of infection.

She was given four transfusions and generous feeding with no improvement. At the end of three or four weeks; patient went home. Patient came back to the hospital two months later. Blood count about the same as before. Beginning to show emaciation. Skin lemon yellow. Spleen enlarged. Subcrepitant rales at both bases. B. P. 98-50. Murmur at both the mitral and aortic areas.

Past History. "Tumor of the tubes" removed two years ago, otherwise negative.

Progress. Patient remained in the hospital five and a half months, her condition ranging from the height of optimism to coma. She developed a sacral sore which was treated with Dakin solution, dichloramine-T, and scarlet R-ointment, each of which failed to lower the organism count. Following this she developed a phlebitis of the left leg. After elevating the leg, applying cotton bandages and heat, this was reduced. Her temperature was ranging from 99-104 deg. Pulse 70-85. She was given arsenic and iron tonic without any signs of improvement. The activity in her chest became more marked and she finally went into a state of coma, developed general anasarea with edema of the lungs and died, February 13, 1920.

Dr. Curt VonWedel. *Acute Suppurative Appendicitis, Peritonitis.*

Paul C., entered the hospital February 14th. Three days before admission to the hospital he had an attack of pain in the abdomen with vomiting. He was

seen by the attending physician who prescribed calomel and salts. On the morning of admission, the boy was brought fifteen miles over rough road to the hospital.

Examination showed poorly nourished boy, twelve years of age. Temperature 102.5 deg., pulse 140, skin dry and hot, chest and heart negative. Abdomen rigid but not distended. More rigidity and pain on the right side.

The abdomen was opened and free pus found everywhere. Appendix retrocecal with the end sloughed off. No attempt at walling. Two large sized drains placed—one in the pelvis and one in the flank behind the caecum. The intestines were not very red, nor did the infection seem very virulent. No culture was made.

The boy did very well during the first twenty-four hours. He took a large amount of two per cent soda by the rectum. No restlessness, no vomiting and during the second twenty-four hours he became restless. Morphin seemed to stimulate. There was good drainage and the abdomen was not distended. Small bowel movement. No vomiting. Restlessness increased. Some relief from bromides and chloral given by rectum. Abdomen soft. Hypodermoclysis of bicarbonate of soda 600 c.c. was given twice. The restlessness increased and he died twenty-four hours later.

I believe this boy died not from peritonitis but from general sepsis. There was, however, nothing ever found in his lungs; there was apparently no endocarditis and no cerebral involvement. The abdomen showed no evidence of general peritonitis. Autopsy was denied.

Dr. A. B. Chase. *Pneumococcic Meningitis following Double Frontal Sinusitis.*

Miss B., age 35. Entered the hospital February 17th, complaining of: vertigo, nausea, vomiting, restlessness, headache, and pain in the back of the neck.

P. I. She gave a history of a cold, two weeks before admission, followed by double frontal sinusitis. She had been taking aspirin for headaches up to the time she consulted a specialist for her sinusitis.

P. H. Not obtained.

P. E. Emaciated woman of 35. Skin dry and hot. Patient stupid. Temperature, 104 deg., pulse 110, respiration 20. Marked tenderness over both frontal sinuses. Pupils react sluggishly. Rigidity of neck. Heart and lungs negative. B. P. 145-75. Knee jerk absent on left side. Kernig's sign present on the left. Babinsky present on left side. Urine showed albumin 4 plus, diacetic 4 plus. Blood R. B. C. 4,600,000, W. B. C. 23,500, Polys. 88, Lymphs, 11. Smear from nose showed pneumococci and staphylococci.

On the day after her admission to the hospital spinal puncture showed increased pressure, globulin and albumin present and a cell count of 32. Culture showed pneumococci at end of 36 hours.

Treatment. Ice bags, cathartics, morphin gr. 1-4 q. 3 h. p. r. n. Morphin seemed to stimulate increasing the delirium and cyanosis. It was discontinued and sodium bromid gr. 20 was given every two hours.

2-19-20. Spinal puncture. Fluid under great pressure and cloudy. 50 c.c. was withdrawn. 20 c.c. of polyvalent pneumococcic serum was given.

2-20-20. 30 c.c. serum intravenously and 20 c.c. intraspinally. Patient very restless. Temperature 104 deg., pulse 140, respiration 45.

2-21-20. Patient died of pneumococcic meningitis. Autopsy not permitted.

CASE REPORTS.

Dr. S. R. Cunningham. *Compression of the Chest.*

Compression of the chest will result in an injury to either the chest wall, the pleura, the lung, or possibly all three. Contusions of the skin and simple fracture of one or more ribs usually make rapid and uneventful recovery with very little treatment.

The course and symptoms in the severer cases vary with the degree and character of the complications. Fractured ribs usually result from severe violence directly at the site of injury or indirectly at a point distant from the injury. It is always well to carefully examine the vertebra when we know there has been severe injury to the chest wall. Ribs are often broken by slight violence, by muscular action, and especially so when there is pre-existing pathology, as a T. B. involucrum (which is usually secondary) or absorption from aneurism pressure.

The outstanding symptom of fractured rib is pain. Deep inspiration and palpation give crepitus. Hemorrhagic effusion indicates that either the intercostal artery or blood vessels of the lungs are ruptured.

If pneumothorax or cellular emphysema exists, injury to the lung is certain. Such injury need not be especially alarming except when a main bronchus has been completely torn and opens into the mediastinal cellular tissue.

Consecutive pneumonia is not uncommon in contusions of the lungs and when it does occur it develops about the fourth to the sixth day following the injury. Traumatic pneumonia is a serious condition and with the existing compensation laws may be interesting medicolegally.

Case No. 1. This young man, a carpenter, age 26, was admitted to the hospital, February 12, 1920, 9:30 a. m. He was brought in on a stretcher suffering profound shock. Breathing was shallow, rapid and catching. Patient was injured one half hour before admission by falling 14 feet from a scaffold. He fell with his right chest across a timber and had the weight of a fellow workman upon him. There was a large pulsating tumor about the size of a split grape fruit in the mid-axillary line corresponding with the 5th, 6th and 7th ribs. This tumor expanded with each inspiration. The interstitial emphysema extended from this point to the supraclavicular space and over the abdomen and to the groin.

The first x-ray shows the tumor with the mottled condition indicating the extensive emphysema and two broken ribs with displaced fragments. On admission his temperature was 97, pulse 130, respiration 36. He made quite remarkable recovery from shock. A large cotton pad was placed over the site of injury and a tight chest binder applied. He "coughed up" a great deal of blood the first four days.

On the 20th, eight days after injury, he had a chill. His temperature went to 104, and his W. B. C. to 21,900. Dr. Moorman, in consultation, verified the diagnosis of traumatic pneumonia. The second x-ray plate shows the condition of the lung at that time when there was extensive dullness over the entire right chest.

The third x-ray plate shows his condition today. He is well of pneumonia and his W. B. C. is 6,900. He was treated conservatively and symptomatically. No surgery was done. I am sorry Dr. Moorman is not here to discuss the medical treatment which he directed.

Dr. Lea A. Riely. *Cerebral Diplegia.* Baby S., age one year. Spontaneous breech delivery. Mother in labor two hours. The mother was very sick with influenza just previous to the delivery.

Father and mother and five brothers and sisters all in good health at the present. Father not alcoholic. No history of lues in the family.

The baby seemed normal until it was two months old, then the mother noticed that it was nervous and had twitching of hands and feet. This continued and at the end of seven months there was no increase in size. It was taken from the breast and put on cow's milk, then Mellin's food, and later on Eagle Brand with no gain, although its appetite was always good.

At the end of one year there is no appearance of teeth, it does not notice objects around it and it is unable to sit up. Its bowels are regular and it seldom ever cries.

Four weeks ago the muscles became tense and there seemed to be a spastic paralysis of the muscles with a constant turning of the head from one side to the other. This is the condition you see now.

Physical Examination. Baby weighs 10 pounds with clothes on, pays no attention to surroundings, muscles tense, legs extended and crossed. Abdomen tense and flat, hands drawn like a claw, eyes drawn up under upper eyelid and is in opisthotonos. The mother says it never relaxes in sleep.

With its tense abdomen and prominent muscles it looks like the athletic figures "produced" by "Nuxated Iron."

In these brain conditions there is loss of motor power and increased rigidity and contracture of the muscles with exaggeration of the reflexes. In this case the contracture was so great we were unable to get the reflexes. The seat of lesion is in the upper neurons in the hemispheres of the brain.

DISCUSSION.

Dr. A. D. Young: Cerebral diplegia most often comes from some intra-uterine condition. Cerebritis in utero may occur when there is an acute infection in the mother. In this case the mother had influenza in the latter months of pregnancy. Following the inflammation may come congestion and hemorrhage into the hemispheres, causing softening, which would result in this general condition.

The child appears well muscled because there is a hypertrophy from the exercise of the contractions, this resulting from destroyed inhibition.

Dr. Wm. Taylor: About one-third of these cases are congenital, alcohol, syphilis, and toxins from acute diseases in the mother being the most prominent causative factors.

The mentality usually ranges from feeble-mindedness to idiocy and there are often physical defects. This child may be blind which would account for its lack of attention.

Dr. Riely, closing: In all types of the disease the course is chronic and cure is hardly possible. They rarely live beyond the period of adolescence. The most frequent termination is early development of epilepsy, mental deterioration and death.

CRANIAL DEFECT.

As the result of a kick by a horse, a boy sustained a compound fracture of the frontal bone above the left eye. The fissure in the bone was about three inches long, and one inch broad, running down at each end to a point. Two large pieces of bone were indriven, causing loss of considerable brain substance. Under ether anesthesia, George Noble Kreider, M. D., Springfield, Ill. (*Journal A. M. A.*, April 10, 1920), removed about six pieces of bone. The two large fragments were inserted in a pocket, which was prepared in the left hypochondriac region, and made by slightly curved incision, nearly three inches long. The two pieces of skull bone were completely buried, and the incision was closed. The wound in the frontal region was thoroughly cleansed, a pledget of iodoform gauze was inserted in the cavity, and the edges of the wound were brought together, except at the ends. Six weeks after the injury was sustained the two fragments of bone were taken from the pocket and placed exactly in their former positions. A considerable layer of fat had become fastened to the outer side of these bones during the sojourn in the abdominal wall, and this was utilized in sewing them in place with fine catgut. The large scalp flap was then brought over, completely closed with silkworm gut, and a firm dressing applied. The result in this case has been perfect recovery. Kreider points out that the implants should be placed in the hypochondrium with the outer surface of the bones in contact with the fatty tissues in this region. When they are removed, as much of this fatty tissue as possible should be brought out with the bones. When they are replaced, this tissue should be sewed with fine catgut to the epicranial aponeurosis and the implants secured in place.

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THIS IS THE OFFICIAL JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION. ALL COMMUNICATIONS SHOULD BE ADDRESSED TO THE JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION, 508 BARNES BUILDING, MUSKOGEE, OKLAHOMA.

The editorial department is not responsible for the opinions expressed in the original articles of contributors.

Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscript or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, 508 Barnes Building, Muskogee, Okla.

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A. will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

EDITORIAL**OUR NEW NATIONAL PRESIDENT, DR. HUBERT WORK.**

Oklahomans will feel a just pride in the selection of Dr. Hubert Work, of Pueblo, Colorado, as President of the American Medical Association. While Dr. Work is thoroughly deserving, a man of unusual good sense and poise and blessed with outstanding ability; the fact that he comes from the far west, in itself, due to a senseless custom, heretofore an effective bar to any candidate solely on those geographical grounds; his election is a complimentary breaking away from the prejudices of the past. Dr. Work is one of the well known neurologists of the country, maintaining a most completely equipped and officered private institution in his city. His great executive ability was recognized in his selection by the Provost-Marshal General as head of the medical activities of that office, which had to do with the basic principles and rules governing selection of the greatest army our Republic ever assembled. His fitness as a great citizen was attested when the Republican party of Colorado drafted him as their standard bearer for the office of United States Senator. Personally, Dr. Work is the very soul of geniality, good fellowship and the highest ideals of ethical honor. Oklahoma extends to Colorado sincere congratulations on this high honor accorded a worthy son of the great West.

MERELY A MATTER OF VIEWPOINT.

Some time ago a very able and practical surgeon of wide experience wrote for the Journal several articles on what might be termed commonplace subjects. The articles were rather caustically criticised by an equally efficient surgeon—

DOCTOR WILFORD HALL CRUTCHER.

Dr. W. H. Crutcher, Bartlesville, died in that city after a brief illness, from pneumonia, February 12, 1920.

Dr. Crutcher was 37 years of age at the time of his death, a graduate of Barnes Medical College, 1908, after which time he served as Assistant Superintendent of Nebraska State Hospital for Insane at Ingleside. He served in the Medical Corps of the army during the war, being discharged January, 1919. Washington County Medical Society passed the following resolutions of respect on his death:

March 9, 1920.

At a regular meeting of the Washington County Medical Society, held March 9, 1920, the following resolutions were passed:

"Whereas, the Lord in His infinite wisdom has called from our midst, and from the noble work which he was doing, and,

Whereas, We, The Washington County Medical Society, feel that in the death of Dr. W. H. Crutcher we have suffered an irreparable loss, not only in a brother physician and co-worker, but a humanitarian who was filled with love and devotion for his work and for the sufferers to whom he administered. Be it further

Resolved, That we, The Washington County Medical Society, do hereby express our profound appreciation of Dr. W. H. Crutcher and his work while among us. And be it further

Resolved, That we extend to Mrs. W. H. Crutcher and family our heartfelt sympathy, in this their hour of bereavement. And be it also

Resolved, That a copy of these resolutions be spread upon the minutes of this Society, and a copy be sent to Mrs. W. H. Crutcher and The State Medical Journal.

We are Fraternally,

W. E. Rammel,
O. S. Somerville,
O. I. Green,
Joseph G. Smith.
Committee.

Doctor and Mrs. A. J. Weeden, Duncan, mourn the loss of their ten year old son who was asphyxiated by a leaking water heater in the bath room. All efforts at resuscitation were unavailable.

Dr. F. B. Fite, Muskogee, celebrated his release from official duties as Mayor of the City by visiting Miami, Florida, in April, where his daughter christened the United States Merchant Marine Ship, Sawokla, April 12th.

Striking Oklahoma City nurses, who quit the municipal hospital when two cases of tuberculosis were received, have been replaced. They will not again be employed by Oklahoma City; for that matter, any other city having information of their humanitarian tendencies.

Dr. John P. Torrey, Norman, has resigned his position as Instructor in Minor Surgery and Physical Diagnosis, Medical Department, State University, and located in Bartlesville, occupying the office of Dr. W. H. Crutcher, lately deceased. Dr. Torrey announces that he will give special attention to surgical work.

Muskogee's New City Management is in process of making its first, palpable, long-eared mistake. They propose to manage a city hospital by a board of "Business Men." Why not turn the legal affairs over to some cab drivers; the pumping station to a committee of ministers and the finances to an aggregation of banana peddlers?

Dr. J. A. Hatchett, El Reno, made an extended visit to Florida points in March, announcing that he was doing "just as he darn pleased." However, there is an element of doubt about that, Mrs. Hatchett was with him; he had not yet made the easy side trip to Cuba. He did not neglect to send back a boost for the candidacy of Scott Ferris, saying he would soon return to take up his work.

Muskogee citizens, by a large majority, voted a bond issue of \$150,000 for the erection of a municipal hospital. In passing, just to remind us where we stand, it should be noted that a proposal separately submitted to vote a large issue to acquire a municipal base-ball park, received a larger vote. Well! "When the devil was sick—." Already the tragedy of the influenza epidemic with its unpreparedness is a forgotten incident.

Tulsa physicians are charging that office building managers are discriminating against them and the dental profession. The matter is under consideration of the Chamber of Commerce. It is said one agent or owner admitted that physicians were not desired, giving as a reason that many undesirables visited the doctor; that the objection was not the doctor, but his patient. Tulsa, Oklahoma City and Muskogee, probably other Oklahoma cities, should organize the doctor and erect his own building. Such a move will have a steady effect on each of them, will give him something to work for, cause him to pay to himself the exorbitant rent demanded, and place him in a position of independence. It is said that financing such a project is a simple matter, not as formidable as it first appears.

Dr. Wm. R. Bathurst, Little Rock, Ark., Secretary-Treasurer Arkansas Medical Society, extends most cordial invitation to Oklahoma physicians to attend their annual meeting, Eureka Springs, June 8, 9 and 10. Dr. Bathurst rightly suggests the strategic location of Eureka—just next door to Oklahoma, easy of access, comfortable in hot weather; clinching the argument sent us with the truism that it is a real "Borderline" case. Those who see fit to attend will find the trip a combination of benefit and outing not usually combined in medical meetings.

OUR ADVERTISERS AT NEW ORLEANS.

The following supporters of our Journal had splendid exhibits at the A. M. A. Meeting: Abbott Laboratories, Armour & Co., Betz & Co., Blakiston & Co., Dennos Products Co., Horlick's Malted Milk Co., Hynson, Westcott & Dunning, Maltbie Chemical Co., Mellens Food Co., Mosley, C. V. & Co., Squibb & Sons, Victor Electric Corporation.

OKLAHOMANS AT THE NEW ORLEANS MEETING.

The following names were noted on the A. M. A. Register as attending the New Orleans Meeting:

Drs. Leila E. Andrews, Oklahoma City; Cap W. Arrendall, Ponca City; Charles Homer Ball, Tulsa; C. C. Bellaire, Cleveland; A. E. Ballard, Madill; Walter G. Bisbee, Chandler; Martha J. Bledsoe, Chickasha; A. L. Blesh, Oklahoma; J. E. Brookshire, Nashoba; J. E. Bercaw, Okmulgee; G. F. Border, Mangum; F. L. Carson, Shawnee; C. E. Clymer, Oklahoma; W. Albert Cook, Tulsa; H. G. Crawford, Dewey; J. R. Caughron, Oklahoma City; O. O. Dawson, Wayne; John L. Day, Norman; H. A. Dever, E. Reno; Roy W. Dunlap, Tulsa; John Williams Duke, Guthrie; Gayfree Ellison, Norman; E. S. Ferguson, Oklahoma City; C. J. Fishman, Oklahoma City; C. M. Fullenwider, Muskogee; Wm. M. Galaher, Shawnee; C. O. Gose, Hennessey; L. A. Hahn, Guthrie; Walter Hardy, Ardmore; J. E. Hollis, Snyder; C. M. Harrison, Comanche; Ellen Hedrick, Muskogee; Albert C. Hirschfield, Oklahoma City; Jos. B. Hix, Altus; C. F. House, Hastings; R. M. Howard, James Jefferson Davis Kernodle, Oklahoma City; W. L. Knight, Wewoka; McDonald Looney, Burneyville; Everett S. Lain, Oklahoma City; Arthur R. Lewis, Oklahoma City; N. H. Lindsey, Pauls Valley; LeRoy Long, Oklahoma City; Earl Winters Mabry, Mangum; F. A. Miller, Hartshorne; Harry Dale Murdock, Tulsa; D. D. McHenry, Oklahoma; S. E. Mitchell, Stigler; D. D. Paulus, Oklahoma City; Edgar E. Rice, Shawnee; Lea A. Riely, Oklahoma City; E. T. Robinson, Cleveland; Marion M. Roland, Oklahoma City; W. T. Salmon, Oklahoma City; James L. Shuler, Durant; W. E. Sanderson, Altus; Leon H. Stuart, Tulsa; T. F. Spurgeon, Frederick; Harmon L. Summers, Osage; L. B. Sutherland, Ringling; Charles B. Taylor, Oklahoma City; Robert E. Thackel, Lexington; M. K. Thompson, Muskogee; Claude A. Thompson, Muskogee; W. J. Wallace, Oklahoma City; L. S. Willour, McAlester; W. K. West, Oklahoma City; Arthur A. Will, Oklahoma City; A. D. Young, Oklahoma City.

MISCELLANEOUS

FIVE-GRAIN TABLETS ADDED.

Armour and Company have added five-grain tablets of Corpus Luteum, Ovarian Substance, Anterior Pituitary Substance, to their list. These tablets are packed in bottles of fifty and are labelled "5-grain." Each tablet contains five grains of the desiccated glandular substance, each grain of which represents a quantity of fresh tissue. Physicians desiring to use the glandular substances in tablet form may now obtain the Armour products in five-grain tablets, as well as the two-grain.

ELECTRO-THERAPEUTIC WEEK IN KANSAS CITY.

Dr. Burton B. Grover will deliver his second course in Electro-Therapy at the Little Theatre, May 24-26. Dr. Jefferson D. Gibson, of Denver will give a special demonstration of his technique in Tuberculosis. Classes limited to those who register in advance. The Western Electro-Therapeutic Association will meet May 27-28. Address, Dr. Charles Wood Fassett, Secretary, Kansas City, Mo. 4-5-1920

PROGRESS.

The rapid growth of the American chemical industry is indicated by the announcement that The Abbott Laboratories have recently purchased twenty-six acres of ground in North Chicago and will soon commence building an additional plant for the exclusive manufacture of synthetics and other chemicals.

Physicians and pharmacists are enthusiastically encouraging the idea of American independence in pharmaceutical and chemical lines.

The Abbott Laboratories is a leader in developing, under government license, such important products as Barbitol (Diethylbarbituric Acid), Cinchophen and Procaine. They are also supplying Anesthesin, Dichloramine-T, Chloramine-T, Nucleinic Acid, Colchicine, Hydrastine, Sanguinarine Nitrate, Lecithin and other chemicals. Some of these have been included and will be shown at the Scientific Exhibit of the American Medical Association at New Orleans in April.

THE PERPLEXING NURSE PROBLEM. OPINION AND CRITICISM.

A MUNICIPAL TRAINING SCHOOL FOR PRACTICAL NURSES.

In every community that has reached beyond the hundred thousand mark there are many families who at times require practical nurses, for the reason that their circumstances are such that to employ special nurses is beyond the limits of their exchequer. Practical nurses are a need even in families of means when the illness is of such a nature that the need of a specially trained nurse is superfluous. In fact, the matter of nursing in a large number of instances is not a matter of science, but purely one of having the right sort of woman at the bedside of the patient. And the right sort of woman is not always the specially trained nurse but the nurse whose humanitarian qualities have been developed to the degree of understanding the wants of a patient and a patient's desire to be made as comfortable as possible through ministrations which are humane and just.

As matters stand today only the wealthy can afford to employ trained nurses; and that only the wealthy are in a position to do so, means unmistakably that the art of nursing is a luxury and therefore not of the widespread good it should be in every community. To combat the high cost of living, as illustrated in the employment of specially trained nurses, and to help the hundreds of families who need the presence of a practical nurse several hours during the day or for that matter a half day, a municipal school for the purpose of training women for practical nursing has been proposed for St. Louis by Mr. John Schmoll, Director of Public Welfare, following a conference with Dr. Cleveland H. Shutt, Hospital Commissioner.

A step in the right direction is this undertaking and one that can invite only the kindest criticism. The course will last two months and at the end each nurse will receive a diploma which will set forth her qualifications as a practical nurse. She will be equipped to nurse in families who, as stated above, will not require specially trained nurses; and, best of all, in emergencies, such as was the recent influenza epidemic, when there was a constant demand for nurses day and night and physicians and the health department were powerless in supplying them, her services will have a value that will be undeniable. To enumerate how often her services will be needed, whether the town is stricken with an epidemic or is in a normal state, would take up too much space and would no doubt bore the medical reader, especially the medical reader who has all along wanted a practical nurse for some of his cases but was unsuccessful in finding one that would fit the part.

Practical nursing, such as heretofore obtained in our large cities, has been in the hands of inexperienced women of no education and no training. They have picked up their knowledge, such as it is, by pure accident and, when employed as they have been by reputable physicians in stress of circumstances, have proved decidedly inefficient. The day of Sairey Gamp, immortalized by Dickens, will never be over so long as we do not have a municipal training school for practical nurses, and that "her" day should have ended long ago but is still as bright as when Dickens made mock of her, is a chapter in the slow workings of our civilization which should make us hang our heads in shame. But the horizon is not dark now; and what with the luminary of the proposed training school peeping over its edge, the citizens of St. Louis should be heartened. When the complete realization of the thought is effected, no greater boon could be bestowed on St. Louis; for it will mean that the now lowly "art" of practical nursing has been wrested from the hands of the inexperienced and will be placed on a plane that will be high enough to engage the attention of all those who, on account of their knowledge of and experience with practical nurses in the past, have been most severe in their judgment to curtail their patients' expenses by recommending certain practical nurses of the brew we have today, and the health department which, when sorely tried in its quest for nurses, has had some bitter experiences along the same lines.—Journal Mo. State Medical Assn., April, 1920.

SEX HYGIENE IN THE SCHOOLS.

There are on many sides vaporings of instruction in sex hygiene. Congresses of various sorts have attacked the general question and it has been debated eugenically, sociologically, physiologically and even medically and morally. Opinion is still divided as to how the subject should be taught and when and how.

Text-books have already appeared and so have brochures for boys and for girls, all worthy enough.

The accomplishment so far has been worth while, but it has occasioned full license in the discussion of sex questions, and the public, that is, the reading public, need no longer be mawkish over reading sex problems.

We confess to some lack of understanding so far as sex hygiene is concerned and believe that any discussion of the subject should be prefaced by a definition of exactly what is aimed at in proposing instruction in sex hygiene in the schools. Everybody accepts the fact that the improvement in society needs first of all an improvement in moral viewpoint and that this may be obtained if the young persons begin early to know moral sex life with the idea of training up to it. Sex knowledge comes soon enough, but usually this is not in a wholesome way.

The schools have begun by the teaching of physiology, in a primitive way, by leading young minds to think of the body as a delicate machinery, needing care and suffering if abused. Some schools even expand the sex side by presenting ideas on reproduction, carrying the child through plant life and lower animal life, up to human reproduction. All of this is commendable, but is this sex hygiene?

The real question involved is usually side-stepped, namely, the instruction of the young in prevention of vicious conceptions of sex to the point that a moral plane may be established and maintained during adolescence and until a natural and moral appreciation of sex may later on establish its own virtue.

What the consideration ought to be is the preventing of sex abuse as a phase of sex hygiene, and with this as a text direct instruction might be given with better effect, but *not* in the schools.

It is the parents' function to teach such things, and we should more and more educate those in the home, responsible for the coming generations, to the end that they may take up the burden by teaching the young. Sex instincts develop early enough to be observed, and the parent who is careful will see the signs sooner than a teacher could. The instruction should be aimed at enlightening the parents, then, as to the need of their charging themselves with the guidance of the young.

Social hygiene is developing. Only within the month a regular publication is announced, emanating from a national organization, engaged in educational propaganda for social hygiene. The work of such a body should enter every home, to anticipate by a proper prevention the necessity of a later reform.

We are learning to see through the veil of hypocritical conventionality and to look at vice as a disease of society with remedies at hand, but with certain difficulties in administration, needing only a proper understanding to make them effective. If everybody preaches sex hygiene, and if most everybody practices it, the youth will not need much instruction beyond that which example teaches.—New Orleans Med. and Surg. Journal.

UNWEPT, UNHONORED, UNHUNG.

Those precursors of the millennium who advocate the abolition of the death penalty will find few recruits in the ranks of The American Legion as long as such brothers in good standing of the I. W. W. as John Lamb, Eugene Barnett, O. C. Bland, Ray Becker, Britt Smith, James McInerney and Bert Bland remain unhung.

Four American Legion men fell before the cowardly volley these murderers delivered from ambush on the peaceful Armistice Day paraders at Centralia, Wash. Their innocent victims—our martyred comrades—are under the sod, which is greening to the pulses of the first soft winds of Spring. Warren Grimm, Arthur McElfresh, Ben Casagrande and Dale Hubbard are dead. They died for their country as surely as our dead in France died for it.

Their murderers live; in prison at present, it is true, but prison has become a sort of second home for an I. W. W.

If our hearts are hard at the thought we have only to reflect to discover the reason why. The eye-for-an-eye days are not far behind us; the days when it was trench for trench, shot for shot, life for life. If our thoughts are bitter we have only to recall memories of the buddies of other recent days—great days, who can forget them?—buddies who sleep over yonder. If our hearts are hard and our thoughts bitter, it is because it is not the civilians of today who speak to you, but the soldiers of yesterday who speak.—American Legion.

THE BREMERMAN UROLOGICAL HOSPITAL.

Elsewhere appears the advertisement of this institution. The Bremerman Hospital, according to Dr. L. W. Bremerman, Chief Urologist, is the only one of its kind in the United States devoted exclusively to private urological cases. Its location in the Old Marshall Field Homestead on Prairie Ave., makes it easy of access and a convenience to those desiring the technical aids offered.

FRANK S. BETZ COMPANY BUYS THE CROWN SURGICAL INSTRUMENT COMPANY.

The medical and dental profession of the United States will be interested to know that the Frank S. Betz Co., of Hammond, Ind., who recently opened a complete exposition and sales room at 6 and 8 West 48th St., New York City, have purchased the entire stock and business of the Crown Surgical Instrument Co., located on 8th Avenue near 49th Street, and will retain the services of the entire Crown Surgical Company's organization, including Mr. A. G. Roberts, who will manage the new Betz store at 6 and 8 West 48th Street.

The Crown Surgical Instrument Co., was organized seventeen years ago by Mr. A. G. Roberts. The business was developed to the very highest standards, and the house enjoyed a reputation for the quality of its products and service, establishing it as one of the leading surgical supply houses of the world.

The Frank S. Betz Co. has heretofore operated on a direct mail order basis. The demands of the medical and dental profession are such that it was necessary to give personal service to the New York physicians and dentists, and the store at 6 and 8 West 48th Street was opened for this purpose.

With the unlimited manufacturing facilities of the Frank S. Betz Company's plant at Hammond, Indiana, combined with the co-operation and good-will of the Crown Surgical Instrument Company in New York City, the medical and dental profession can be assured of the very best service and the highest quality of merchandise.

NONSENSE AND VARIATION.

(Culled by the Journal's Humorist, Dr. C. W. Heitzman.)

A Wellington little girl told her little chum that her mother had gone to choir practice. "Oh, yes," said the chum, "my mamma took treatments from one of them after she had the flu."

Or a Rolling Stone.

Among the regular visitants to the consulting room of a Philadelphia physician is an elderly, extremely garrulous lady. On one occasion the doctor had patiently endured a lengthy recital of her troubles, and had written out a new prescription. She got up to leave and was about to pass the threshold when suddenly she turned and said:

"But, doctor, you haven't looked to see whether my tongue was coated."

"My dear lady," wearily replied the physician, "one doesn't look for grass on a racetrack."

—Harper's Magazine.

What to Do Till the Doctor Comes.

A girl of 17 writes to the Chicago Tribune's doctor: "I am slightly bow-legged. Lately it is so noticeable. Will arch supports help any?" And the doctor replies: "Arch supports will not help. Try lengthening your skirts."

Can't Be Done.

A negro who had an injured head entered a doctor's office.

"Hello, Sam! Got cut again, I see."

"Yes, sah, I done got carved up with a razor, Doc."

"Why don't you keep out of bad company?" said the physician, after he had dressed the wound

"Deed I'd like to, Doc, but I ain't got 'nuff money to git a divorce."—Laughing Gas.

A woman is as old as she looks, and a man is old when he quits looking.

Of course, the dentist's sign which fell and painfully injured a Topeka man the other day was examined by astute reporters and proved to be that of a painless dentist.

Two Causes for Yawning.

Bix—A physician says that yawning is caused by an undersupply of fresh air.

Dix—That's right—also an oversupply of hot air.—Boston Transcript.

More to Complain.

Many complaints are being made of the taste of city water. This may be due to the fact that more people are drinking it now.—Philadelphia Evening Ledger.

It Takes Something Stronger.

No, Gladys; the ouija board is not enough to bring back John Barleycorn. It takes the side-board to do that.—Boston Transcript.

During March the following articles were accepted from advertisers of your Journal:
Elixir Barbital Sodium—Abbott Laboratories, Chicago.

THE ANNUAL MEETING.

DATE—MAY 18, 19, 20, 1920.

HEADQUARTERS: Registration, Reception Committees and Exhibits; Lee-Huckins Hotel.

SECTION MEETING PLACES:

Surgery and Gynecology, Banquet Hall, Lee-Huckins.
Medicine and Nervous and Mental Diseases, Banquet Hall, Lee-Huckins.
Pediatrics and Obstetrics, Chamber of Commerce.
Eye, Ear, Nose and Throat, Chamber of Commerce.
Genito-Urinary, Skin Diseases and Radiology, Chamber of Commerce.
House of Delegates, Lee-Huckins Hotel.

Surgical Clinics will be held at 9:30 a. m., Tuesday, May 18, 1920, at St. Anthony's, University Wesley and Baptists Hospitals. Lunch will be served at each of these hospitals.

Medical Clinics will begin at 2.00 p. m., and continue through the day.

Prospective visitors are urged to register at the Lee-Huckins Monday in order to avoid the rush. The small minority not yet in good standing are reminded that they cannot register unless their dues are paid. Registration at the meeting is a time wasting, unnecessary process. Every member should place himself in good standing *before* the meeting and thus avoid taking up the time of registrars who will have their hands full with other matters. If you are not in good standing, see your county secretary now, and do not come to the registration desk to do so, thus using valuable time which rightfully belongs to other matters. A printed list of members will be posted; if your name is on it much confusion will be avoided in searching through files unnecessarily.

Badges will be furnished only to those in good standing.

GENERAL MEETING, TUESDAY, MAY 18—8:00 P. M.

Address of Welcome—Judge Thos. H. Owen, Oklahoma City.
 Response—Dr. A. S. Risser, Blackwell.
 Invocation—Rev. S. J. Porter, Oklahoma City.
 President's Address—Dr. L. J. Moorman, Oklahoma City.

Conference of presidents, secretaries and members of county legislative committees, 7:30 p. m. May 19, 1920, Lee-Huckins Hotel. (It is expected that every officer and every member of above committees who can be present at this meeting, attend. The matter for consideration is one of great importance).

SECTION ON MEDICINE, MENTAL AND NERVOUS DISEASES.

Banquet Hall, Lee-Huckins Hotel, May 19, 1920—9:00 A. M.

Dr. James T. Riley, Chairman, El Reno.

Dr. Ray Balyeat, Assistant to the Chairman, Oklahoma City.

1. Chairman's Address—James T. Riley, M. D., El Reno, Okla.
2. "The Relation of the Bacteriology and Pathology of the Tonsils Symptomatology"—Dr. Louis A. Turley, Norman, Okla.
Discussion opened by Dr. Lea A. Riely, Oklahoma City.
3. "Oral Sepsis; Its Relation to Diagnosis"—Dr. W. Forest Dutton, Tulsa.
Discussion opened by Dr. Chas. Bobo, Norman.
4. "The Present Status of Focal Infection"—Dr. A. B. Leeds, Chickasha.
Discussion opened by Dr. W. H. Livermore, Chickasha.
5. "The Preventive Treatment of Rabies"—Dr. T. C. Terrell, Ft. Worth, Texas.
Fraternal Delegate to Oklahoma from Texas State Medical Association.
Discussion opened by Dr. Gayfre Ellison, Norman.
6. "Mediastinal Neoplasm"—Dr. Horace T. Price, Tulsa.
Discussion opened by Dr. A. W. White, Oklahoma City.
7. "Thyrototoxicosis"—Dr. W. W. Rucks, Oklahoma City.
Discussion opened by Dr. Ray Balyeat, Oklahoma City.
8. "Acidosis"—Dr. C. J. Fishman, Oklahoma City.
Discussion opened by Dr. A. K. West, Oklahoma City.

9. "Acoustics of the Chest"—Dr. Lea A. Riely, Oklahoma City.
Discussion opened by Dr. L. J. Moorman, Oklahoma City.
10. "Two Cases of Hysteria, One of Total Blindness and One of Total Deafness"—Dr. A. D. Young, Oklahoma City.
Discussion general.
11. "Treatment of Lymphatic Derangements"—Dr. Winnie M. Sanger, Oklahoma City.
Discussion opened by Dr. Lelia E. Andrews, Oklahoma City.
12. "Blood Transfusion"—Dr. F. H. Clark, El Reno.
Discussion opened by Dr. John W. Riley, Oklahoma City.
13. "Influenza"—Dr. John A. Roddy.
Dr. J. A. Roddy, Marie Bump, B. A., and Effie Smith, from the William Wallace Bierce Memorial, St. Anthony Hospital.
14. "The Problems of the Care of Drug and Alcohol Habitués."—Dr. John W. Duke, Guthrie.
Discussion opened by Dr. M. S. Gregory, Oklahoma City.

SECTION ON SURGERY AND GYNECOLOGY.

Banquet Hall, Lee-Huckins Hotel, May 19, 1920—9:00 A. M.

Dr. Ralph V. Smith, Tulsa, Chairman.

Dr. Ross Grosshart, Tulsa, Secretary and Vice Chairman.

Dr. C. E. Clymer, Assistant to the Chairman, Oklahoma City.

Chairman's Address—Dr. Ralph V. Smith, Tulsa.

1. "Obstruction of Bowel, Due to Meckel's Diverticulum"—Dr. A. P. Gearhart, Blackwell.
Discussion opened by Dr. McLain Rogers, Clinton.
2. "Cholecystostomy vs. Cholecystectomy"—Dr. J. M. Bonham, Hobart.
Discussion opened by Dr. A. L. Blesh, Oklahoma City.
3. "Varix of Broad Ligaments"—Dr. F. A. Hudson, Enid.
Discussion opened by Dr. G. A. Wall, Tulsa.
4. "Fads in Surgery"—Dr. T. M. Aderhold, El Reno.
Discussion opened by Dr. F. B. Fite, Muskogee.
5. "When Does a Surgeon's Obligation to His Patient End, Following Operation?"—Dr. Horace Reed, Oklahoma City.
Discussion opened by Dr. Le Roy Long, Oklahoma City.
6. "Empyema"—Dr. P. P. Nesbit, Muskogee.
Discussion opened by Dr. E. B. Dunlap, Lawton.
7. "Roentgenology in Relation to Surgery"—Dr. J. C. Johnstone, McAlester.
Discussion opened by Dr. C. H. Ball, Tulsa.
8. "Acute Appendicitis—Differential Diagnosis and Treatment"—Dr. M. J. Ferguson, Tulsa.
Discussion opened by Dr. Roscoe Walker, Pawhuska.
9. "Talipes; A Plea for Early Treatment"—Dr. V. M. Gore, Clinton.
Discussion opened by Dr. W. K. West, Oklahoma City.
10. "Report of Some Unusual Accidental Injuries and Treatment of Same"—Dr. J. L. Shuler, Durant.
Discussion opened by Dr. Fred H. Clark, El Reno.
11. "Goiter"—Dr. E. E. Rice, Shawnee.
Discussion opened by Dr. Fred Y. Cronk, Tulsa.

SECTION ON EYE, EAR, NOSE AND THROAT.

Chamber of Commerce Building, May 19, 1920—9:00 A. M.

Dr. L. C. Kuyrkendall, Chairman, McAlester.

Dr. L. M. Westfall, Assistant to the Chairman, Oklahoma City.

Chairman's Address—Dr. L. C. Kuyrkendall, McAlester.

1. "The Eye as an Indicator of Constitutional Disease"—Dr. L. Haynes Buxton, Oklahoma City.
Discussion opened by Dr. J. M. Shelton, Ardmore.
2. "Etiological Importance of Focal Infection in Ophthalmic Practice"—Dr. A. C. McFarling, Shawnee.
Discussion opened by Dr. E. S. Ferguson, Oklahoma City.
3. "Care and Conservation of Vision"—Dr. U. C. Boon, Chickasha.
Discussion opened by Dr. Phil F. Herod, El Reno.

4. "The Importance of Careful Refraction in Ophthalmic Practice"—Dr. J. E. Davis, McAlester.
Discussion opened by Dr. D. D. McHenry, Oklahoma City.
5. "Complications of Middle Ear Affections"—Dr. G. E. Hartshorne, Tulsa.
Discussion opened by Dr. W. T. Salmon, Oklahoma City.
6. "Report of Case of Sinus Thrombosis Complicating Mastoid"—Dr. A. W. Roth, Tulsa.
Discussion opened by Dr.
7. "Involvement of the Maxillary Sinus During Acute Rhinitis"—Dr. L. A. Newton, Oklahoma City.
Discussion opened by Dr. R. O. Early, Ardmore.
8. "Nasal Hydrorrhea"—Dr. F. S. King, Muskogee.
Discussion opened by Dr. C. M. Fullenwider, Muskogee.
9. "Naso-Pharyngeal Catarrh"—Dr. J. R. Phelan, Oklahoma City.
Discussion opened by Dr. J. F. Messenbaugh, Oklahoma City.

SECTION ON GENITO-URINARY, SKIN DISEASES AND RADIOLOGY.

Chamber of Commerce, May 19, 1920—9:00 A. M.

Dr. J. Hoy Sanford, Chairman, Muskogee.

Dr. Rex Bolend, Assistant to the Chairman, Oklahoma City.

Chairman's Address—"Value of Corroborative Evidence of Cystoscope, X-ray and Laboratory"

1. "Chancroidal Infections—Diagnosis and Treatment"—Dr. E. L. Cohencour, Tulsa.
Discussion opened by Dr. J. G. Harris, Muskogee.
 2. "Interpretation of Bladder Symptoms in the Female"—Dr. J. Z. Mraz, Oklahoma City.
Discussion opened by Dr. J. H. Hays, Enid.
 3. "Comparison of Luetic Eruptions to Other Dermatological Pathology"—Dr. A. L. Stocks, Muskogee.
Discussion opened by Dr. E. S. Lain, Oklahoma City.
 4. "Stricture of Urethra—Diagnosis and Treatment"—Dr. C. B. Taylor, Oklahoma City.
Discussion opened by Dr. W. B. Pigg, Okmulgee.
 5. "X-ray Diagnosis of Urinary Tract"—Dr. C. M. Ming, Okmulgee.
Discussion opened by Dr. E. N. McKee, Enid.
 6. "Obstructions at Bladder Neck"—Dr. John R. Caulk, St. Louis, Mo.
Discussion opened by Dr. W. J. Wallace, Oklahoma City.
 7. "X-ray and Radium Treatment of Carcinoma of Breast and Uterus"—Dr. M. M. Roland, Oklahoma City.
Discussion opened by Dr. C. H. Ball, Tulsa.
 8. "Brief Discussion of Genito-Urinary Surgery"—Dr. F. L. Warterfield, Muskogee.
Discussion opened by Dr. R. T. Edwards, Oklahoma City.
 9. "Hematuria—Diagnosis and Treatment"—Dr. W. J. Wallace, Oklahoma City.
Discussion opened by Dr. T. B. Coulter, Tulsa.
 10. "Primary Syphilis"—Dr. Curtis R. Day, Oklahoma City.
Discussion opened by Dr. R. A. Douglas, Tulsa.
 11. "Pathology of Spinal Fluid in Cerebro-Spinal Syphilis"—Miss Rhea Campbell, Guthrie.
 12. "Cerebro-Spinal Syphilis—Diagnosis and Treatment"—Dr. Rex Bolend, Oklahoma City.
Discussion opened by Dr. C. B. Taylor, Oklahoma City.
 13. "Symptoms and Method of Diagnosis in Nervous Syphilis"—Dr. A. D. Young, Oklahoma City.
 14. "Remote Effects of Illy Treated Syphilis"—Dr. R. B. Love, Oklahoma City.
Discussion opened by Dr. F. L. Warterfield, Muskogee.
- Election of Officers for the Section.

SECTION ON PEDIATRICS AND OBSTETRICS

Dr. C. V. Rice, Chairman, Muskogee, Oklahoma.

Dr. J. Raymond Burdick, Vice Chairman, Tulsa, Oklahoma.

Chairman Address—Conservative Obstetrics.

1. "Corpus Luteum in Vomiting of Pregnancy"—Dr. A. C. Hirshfield, Oklahoma City.
Discussion opened by Dr. E. E. Rice, Shawnee.
2. "Spinal Puncture for Diagnostic Purposes and the Improvement of Symptoms Without the Use of Serum"—Dr. J. Raymond Burdick, Tulsa.
Discussion opened by O. A. Flannagan, Tulsa.

3. "My Way of Handling a Normal Case of Labor, with a Report of One Abnormal Case"—Dr. E. P. Miles, Hobart.
Discussion opened by Dr. G. W. Wiley, Granite.
 4. "The Colon Bacillus as a Factor in the Diseases of Infancy and Childhood"—Dr. T. C. Sanders, Shawnee.
Discussion opened by Dr. M. P. Springer, Tulsa.
 5. "The Convalescent Period of the Puerperium"—Dr. John Payne Torrey, Bartlesville.
Discussion opened by Dr. R. E. Looney, Oklahoma City.
 6. "The Acute Abdomen in Infancy and Childhood"—Dr. G. W. Wall, Tulsa.
Discussion opened by Dr. W. M. Taylor, Oklahoma City.
 7. "Nocturnal Enuresis"—Dr. W. A. Tolleson, Eufaula.
Discussion opened by Dr. C. J. Fishman, Oklahoma City.
 8. "Hemorrhage of the New Born and Its Treatment"—Dr. F. L. Carson and Dr. J. E. Hughes, Shawnee.
Discussion opened by W. A. Fowler, Oklahoma City.
 9. "Exudative Diathesis or Infantile Eczema"—Dr. C. H. Ball, Tulsa.
Discussion opened by Dr. A. L. Stocks, Muskogee.
 10. "Clinical and Laboratory Findings of Brain Tumor in a Boy Four Years of Age. Death Resulting"—Dr. W. M. Taylor, Oklahoma City.
Discussion opened by Dr. A. L. Solomon, Tulsa.
 11. "Gangrenous Stomatitis"—Dr. Leila E. Andrews, Oklahoma City.
Discussion opened by Dr. J. Raymond Burdick, Tulsa.
 12. "Some Clinical Aspects of Contracted Pelves"—Dr. W. A. Fowler, Oklahoma City.
Discussion opened by Dr.
 13. "The Anti-Partum Obstetrical Examination"—Dr. R. E. Looney, Oklahoma City.
Discussion opened by Dr. A. C. Hirshfield, Oklahoma City.
 14. "The Importance of Radiography in Infancy and Early Childhood"—Dr. John E. Heatly, Oklahoma City.
Discussion opened by Dr. A. L. Solomon, Oklahoma City.
 15. "Extra-Uterine Pregnancy, the Diagnosis and Treatment"—Dr. Walter W. Wells, Oklahoma City.
Discussion opened by Dr. G. F. Border, Magnum.
 16. "Routine Physical Examination of Children"—Dr. M. P. Springer, Tulsa.
Discussion opened by Dr. T. C. Sanders, Shawnee.
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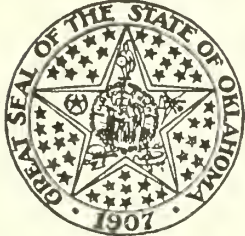
JOHN W. DUKE, Guthrie, President.
Oklahoma State Medical Association.
1920-1921

Born Scobey, Miss., June 5, 1868. University of Tennessee, 1891. Post Graduate University of New York, 1892-93, University of Heidelberg, 1898, Professor of Mental Diseases and Medical Jurisprudence University of Oklahoma.

A Physician of the first class. Always a citizen of the first rank. Truthful, honest, and among the noblest of the land—a Man—whom we honor and revere.

THE JOURNAL

of the



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NUMBER 6

THE PAST AND FUTURE OF MEDICINE IN OKLAHOMA.*

L. J. MOORMAN, M. D.

OKLAHOMA CITY, OKLA.

My first duty is to thank you for the signal honor you have conferred upon me. To be chosen to preside over this body of sixteen hundred physicians, whose duty it is to safeguard the health of two million people, is indeed a compliment to be coveted, and I assure you that my appreciation of this high office of privilege and opportunity is exceeded only by my keen sense of responsibility.

It gives me great pleasure to preside over this particular meeting, because it affords me an opportunity to join with others in bidding you a hearty welcome to Oklahoma City.

Before entering upon my regular theme I desire to call forcibly to your attention the fact that there will soon be a special election when the people of Oklahoma are to vote upon the chiropractic bill. As many of you know, two years ago a bill was passed making the practice of chiropractic illegal in the State of Oklahoma. A petition was circulated and a referendum secured. Since the vote can be deferred no longer, we must see that it is right. Knowing that the average physician is so engrossed with his professional duties that he has little time for civic obligations and that he is naturally reticent about entering into any controversy which is so related to his own profession that he might be falsely accused of ulterior motives, I deem it advisable to impress upon you the responsibility which this question places upon the medical profession. Standing as we do for the highest ideals in the art and science of medicine and for professional and civic righteousness, it becomes our duty to employ our influence and, if necessary, to give of our time in order that an intelligent vote may rid the state of this disgraceful cult.

As Dr. William H. Welch has well said, "We represent no school of medicine and no system of healing, allopathic, old, regular or other. We are simply physicians as chemists are chemists, seeking to advance the boundaries of medical knowledge and to base, as far as possible, the practice of our art on scientific principles and sound experience. Our concern with the legal regulation of the practice of medicine differs in no respect from that of the rest of the community and is merely that these who assume to practice the healing art as a profession shall have some adequate knowledge of the human body in health and disease."

It therefore becomes our duty to lay bare the unbounded credulity and ignorance which gives rise to the extravagant claims of the chiropractor and the unwarranted testimony of his deluded patrons.

*President's Address, delivered at the 28th Annual Meeting, Oklahoma City, May 18, 1920.

Upon this occasion it is customary to recount the recent advances in medical science, whether or not the members of our own association have had any part in their achievement. But tonight I rather prefer to call your attention very briefly to the history of medicine in Oklahoma. I desire to call to your mind some of the things accomplished with the hope that we may be so inspired by a recital of the past that we may lay hold upon the future and press forward to greater achievements.

Though the years are few, it is a far cry from the pioneer spirits who fostered the health of the early settler to the present day physician of Oklahoma with every available diagnostic and therapeutic means at his command. In the early days there were long drives over untried trails, with only the dugout for shelter and cowchips for warmth at the end of the road. There were diagnostic obstacles and therapeutic difficulties, with no hospitals to serve as a last resort, no team work, no corps of specialists ready to advise. This brave soul of the frontier was sole arbiter even in the face of death, and as he came forth from the sick room heavy with responsibility, his conscience, though perhaps disturbed for the moment by the weird yelping of the coyote, soon found refuge in the starry stillness of the firmament and in silent eloquence the Master Physician made known His approval. Such was the beginning of medicine in the State of Oklahoma only a few decades ago.

What have we accomplished in these few years? We have today something over sixteen hundred members in The Oklahoma State Medical Association. We have in active practice in the State over two thousand physicians. The great majority of these are young and middle aged men, graduates of the best schools in the land. I dare say we have in Oklahoma an average standard of professional efficiency not surpassed by any other state in the Union. We have throughout the State many splendid hospitals equipped for the diagnosis and treatment of disease.

In this short period of time we have established a medical school which, in spite of many difficulties, has passed into Class A. When the war of the nations came and the call was issued for volunteers in the Medical Corps, Oklahoma responded promptly and most generously. Many communities gave up forty to fifty per cent of their best physicians. Many of these men had spent years of unselfish service in civil life, and they had become so endeared to their friends and patrons, when called to the colors they became transfixed in the white light of military service and their action and their deeds shall ever be held in grateful memory.

We have gradually gained the confidence and approval of the public, as manifested by the general attitude toward the profession and the more generous appropriations for medical purposes.

That the medical profession of the state as a whole has reached an enviable position is well attested by the following extract from Dr. John B. Murphy's address before The Clinical Congress of Surgeons of North America in Boston, 1915:

"Just two weeks ago I attended a meeting of the Southwestern Medical Association at Oklahoma City. Half of each day was allotted to clinics and clinical demonstrations by members of the local profession. These clinics were so well conducted that they would have been a credit to any Metropolitan Medical University and every available space in the rooms was occupied by men eager to see and capable of appreciating. They did all classes of operations and after the most modern and approved plans. The instructions in the Medical School were from a practical standpoint, high class and on a par with the more modern Eastern Schools, except that the students were given less predigested education. Their hours of instruction were reduced, giving them a proportionate added opportunity for individual thinking.

"The so-called frontiers of medicine and surgery have elevated the average of their men much more rapidly than the older and more staid communities. The latter self-satisfied centers have not yet learned the advan-

tage of frequent visits to neighboring clinics and have therefore not profited by them."

In addition to the high average we have attained in the art and the science of our profession, certain members of this association have made scientific advances worthy of special mention. For example, the more recent text books on diseases of the skin contain observations and discoveries made by one of our members who has received due credit for the same.

A member of the medical faculty of the State University, through his untiring energy and infinite patience, has performed a task which had previously been considered impossible. As a result of this notable achievement there is to be found in the Harvard Medical Museum a wax model of a complete normal kidney tubule and a similar model of a pathological tubule, and certain chapters in Anatomy and Physiology must be rewritten to conform to the facts brought to light by this scientific mind. It is yet impossible to estimate the ultimate influence of this work upon the classification, diagnosis and treatment of kidney diseases. We should take great pride in such work as this and it gives me pleasure to point out the fact that this man, a servant of the state drawing a very meager salary, has in addition to the performance of other duties, worked two years on this bit of research, giving to the pathological model alone ten hours a day consecutively for eight months.

In the profession of medicine there are many devoted disciples of science who daily spend their energies in behalf of humanity with no hope of adequate reward. In other fields of endeavor the discoverer or inventor makes secure his own interests before giving to the world the results of his work. Not so with the physician. If he is true to the ideals of his profession, he gladly gives up that which might otherwise be capitalized for personal gain.

Since the work of the physician, especially that which has to do with research and the care of the indigent poor, is entirely and unselfishly in the interest of humanity, it should have governmental support. To a certain extent this support is being given through the State University and through state, county and municipal hospitals and sanatoria. But since this must ever be inadequate, we feel justified in calling for individual benefactions. Dr. Stuart McGuire, in speaking of medical education makes the following statement, which is interesting in this connection: "If each student were charged what it actually costs to teach him, none but the rich could afford to study medicine. Doctors are a necessity, not a luxury, and as the rich do not care to become doctors, then the rich in the future will have to be educated to contribute of their wealth to make doctors. Medical education has ceased to be a business and become a philanthropic work which must be supported by state appropriations and individual benefactions."

In view of the fact that the medical profession of Oklahoma has a proven capacity for achievement and stands ready and eager to enlarge its scope of knowledge and thereby its usefulness, I should like to recommend that the House of Delegates create a commission for the purpose of directing some of the wealth of Oklahoma into medical channels which should result in the highest type of service possible for a man to render his fellow man. This commission should be charged with the following duties:

1. The members of the Oklahoma State Medical Association should be urged to ever keep in mind the fact that their professional contact with wealthy individuals may afford legitimate opportunities to suggest gifts or bequests for the building and endowment of hospitals, sanatoria, laboratories, or medical libraries; or for the purpose of carrying on scientific research.
2. The giving of proper publicity to medical facts which might be of interest and of service to the laity.
3. The tabulation and filing of all available information concerning the various hospitals, sanatoria, laboratories, and other medical institutions in the state in order that they may pass upon their professional merits

at any time if occasion should arise. As for example, the contemplated endowment of any particular institution or the establishment or endowment of a laboratory in connection with such an institution.

4. The members of this commission shall be authorized to receive any funds that come undesignated and direct the expenditure of the same. When called upon, they shall act in an advisory capacity in connection with the expenditure of funds designated for any of the purposes mentioned above and also in case of contemplated benefactions where information is desired.

In response to those who may say that such a plan is impracticable or impossible, I should like to call attention to the fact that never in the history of the world has there been a time when men were so anxious to serve their fellow men. To champion a plan which offers such an opportunity for service is like swimming with the current. Granting, however, the possibilities of many obstacles, we should not hesitate. If we lay hold upon the "sword of opportunity" with sufficient faith and courage, it can be drawn from the "iron of difficulty."

MEDICAL EDUCATION.

A. C. Eycleshymer, Chicago (*Journal A. M. A.*, April 3, 1920), says that conditions are very different now than they were earlier in the last half century, when medical education was tinctured by commercialism, due to the development of our natural resources. The medical student's aim was to be an all round practitioner, and his teachers were selected, largely, for their financial rather than intellectual qualifications. Today things are different. Individualism has been recognized, but measures have not been adopted as yet to meet this need. The schools are thus approaching an obstacle of their own creation. In creating a medical curriculum, we should ever be mindful that no two students are alike, and besides their varying in previous attainments and training, they differ also in energy and ability. What we should do is to determine the special needs of each man and keep in mind his adaptability for certain kinds of work. While the curriculum of each school is rigid, when compared they show wide differences. The school that is most actively engaged in investigation of borderland subjects that are constantly coming up, finds greatest difficulty in keeping a fixed curriculum. The author reproduces a curriculum advocated by the late Professor Mall, and quotes him as to its basis. Professor Mall has demonstrated through his students the soundness of his views of academic freedom, and in the proposed curriculum, besides the obligatory requirements, a considerably larger list of elective subjects are enumerated. The electives are the stepping stones to independent thought, and independent thought is the threshold of knowledge, and should be encouraged.

EXPERIMENTAL STUDY OF THE NASOPHARYNGEAL SECRETIONS FROM INFLUENZA PATIENTS.

An experimental study of the nasopharyngeal secretions from influenza patients was made by Peter K. Olitsky and Frederick L. Gates, New York (*Journal A. M. A.*, May 29, 1920), during the course of one and a half years in three successive periods. The materials with which they worked were the saline washings from the nose and throat from eight cases of influenza within the first thirty-six hours of the disease, and from twelve cases at later stages, namely, either during convalescence or the period of the postinfluenzal pneumonia. In addition, fourteen persons, during the epidemic or interepidemic periods, believed never to have had influenza were washed in the same manner and their washings studied. From the evidence obtained in this study the authors feel justified in assuming the presence of a specific substance in the nasopharyngeal secretions from cases of epidemic uncomplicated influenza. This substance appears to be present only in the early hours of the disease. It has not been found later than thirty-six hours, nor in cases of secondary pneumonia, nor in secretions from persons free from the syndrome of influenza either during the epidemic or during non-epidemic periods. With this substance they have induced a clinical and pathologic condition in rabbits, affecting the blood and pulmonary structures mainly, which could be maintained and carried through at least fifteen successive animals. For this reason, and also because of the dilution between passages and the shortening of the incubation period from rabbit to rabbit, the authors are led to believe that they are dealing with the actual transmission of a multiplying agent rather than with a passive transference of any original active substance. This active substance is filtrable, and resists the action of sterile 50 per cent. glycerin for nine months, but probably not for a much longer period.

TEAM WORK IN MEDICINE.*

JAMES T. RILEY, M. D.

EL RENO, OKLA.

As Chairman of the Section on Medicine, I wish to thank all who have so cheerfully come to my assistance and who have met my requests for papers and discussions with a spirit so willing that it has been a pleasure to arrange the program.

I am sure that we will all find this a very interesting and profitable meeting. The physicians who appear on the program are all people who are doing things very much worth while in an alert, up-to-date manner and we should all derive great benefit from their experiences and opinions, the results of their careful research.

We all realize that we are deeply obligated to these doctors who have taken the time from their busy lives to prepare these papers and discussions for our benefit and for the ultimate good of humanity.

As I scanned the completed program it was forcibly impressed upon my mind that Oklahoma is fast coming to the front line in the medical profession and is eminently fitted right now for practicing the science of medicine in the ideal manner—team work.

The world of science is now recognizing the great value of team work in sciences. This team work and co-operation has made possible wondrous results, otherwise unattainable in astronomy, biology, physics, geophysics, chemistry, engineering.

Scientists are realizing that the group work stimulates to higher conceptions and that while the value of the original will be recognized and independence of action encouraged, the advantages of wide co-operation and division of labor is secured, promoting research, discovery, and subsequent progress.

Team work in medicine is not something new, untried. The most important medical papyri, that discovered at Thebes, which dates back about 1500 B. C., discloses the fact that in those remote times each physician was a specialist who confined his practice to one disease or to one part of the body.

Regarding the practice of medicine during the fifth century B. C., Herodotus tells us "The art of medicine is divided among them: Each physician applies himself to one disease only and not more. All places abound in physicians; some physicians are for the eyes, others for the head, others for the teeth, others for the intestines, and others for the internal disorders."

We know that the ancients who thus practiced medicine developed a high degree of skill, hampered, as they were, by the slow development of the fundamental sciences, chemistry, biology, and physics, which delayed the progress of medicine and limited it to within comparatively narrow bounds.

With the modern development of these fundamental sciences medicine has made quick strides. This rapid progress of medicine in diverse directions has made it impossible for any man to completely cover the field, hence the need of specialism.

If the ancients acknowledged the necessity of division of labor, to permit the concentration of effort, in the then narrow field of medicine, how much more necessary is it now that the science of medicine is so vast that no man, no matter how wide his knowledge, can encompass it.

The conscientious up-to-date doctor insists upon complete physical diagnosis for his patient and recognizes the fact that specialism is necessary in ninety per cent of the cases which come under his care.

No one can do all things equally well and the isolated practitioner trying hard to treat everything makes a poor diagnostician. He has neither time nor strength for diagnostic study.

Specialism, as generally practiced, tends to narrowness in the operator through

*The Chairman's Address, Section on General Medicine, Oklahoma City, May 19, 1920.

isolation, and works a hardship on the laity. The cost of the services of an isolated specialist has necessarily become so large as to be almost prohibitive. In some cases only two classes of patients can avail themselves of these services, the very rich, who can pay large fees, and the very poor, who are willing to accept the charity of the operator.

The most promising solution to this problem is the group system, whereby a staff of specialists may co-operate to practice medicine more efficiently. This team work, associated with specialism, is no untried experiment. The Mayo Clinic were probably the pioneers in the movement in this country, and we all know how successful it has proven. Many other clinics have met with encouraging success and the movement has spread with great rapidity. In our own state it has been tried and found to be of limitless value to the physicians and to the patients.

Dr. Charles Mayo suggests that in large cities, diagnostic hospitals be founded for the observation of patients, all kinds of laboratory tests, x-rays, special vaccines, etc. According to his plan, patients would be sent to these hospitals by their attending physicians. When diagnosis would be completed, the patient would be referred back to his physician, with diagnosis and suggested plan of treatment deemed proper by the several specialists. From the clinical library would be sent references to recent literature on the subject. Valuable time would be saved and perhaps the patient's life.

Of course such a system is not available to the average community. Groups, as formed in small communities, must necessarily be limited. A suggested grouping for such localities is: A surgeon, who would also take the genito-urinary work, a pathologist who would also do the x-ray work; an eye, ear, nose and throat specialist; an internist who would devote his time to general medicine, obstetrics and general diagnosis. The anesthetist could be either the pathologist or internist. Where a community is large enough to admit of further division, an obstetrician should be added to the staff, who might also devote his time to pediatrics. Ideal team work, I realize, calls for further sub-division, but that also calls for a larger staff, and I am now speaking from the average-size town's point of view.

Of course this group would also include a dentist, for we now recognize the fact that many diseases, acute and chronic, local and general, arise from a local focus, the mouth, and the true importance of the dentist is acknowledged.

The fees in the group system are variously arranged. Partnership is not necessary. I believe, in some places in this state, the net earnings are pooled and fees are divided according to the previous year's earnings.

Even when the physicians' Utopian dream has come true and Preventative Medicine will become prevalent, or as Dr. Harvey Cushing expresses it, "When Dr. Pound, of Cure Lane, will be superseded by his young disciple, Dr. Omee, of Prevention Street," the necessity of group medicine will not be minimized. Public health and sanitation can only be properly administered by experts in the various lines. These men must co-operate in the control and prevention of disease.

Only good can come of team work in medicine. One result, not so small in its power for good either, will be the elimination of petty jealousies that will creep into the profession. Co-operation will do much toward effacing the many peculiar set ideas with which we are, each one of us, beset.

Great advancement of science will follow this group system of medicine, especially in laboratory work. Epidemics and contagions will be prevented. One authority encourages us with the belief that when the general public realizes the good of this work, municipal support in organizing and maintaining hospitals will make possible this ideal even in places far removed from the great centers.

This movement is bound to grow and I hope that the day is not far distant when every community in Oklahoma that has a hospital will have adopted the group system of practicing medicine, for the best reason of all is that thereby will be given to each one of us the boon for which every true physician craves—the power to give to suffering humanity the best that is in him.

RECONSTRUCTION AND REHABILITATION OF WOUNDED OF OUR INDUSTRIAL ARMY.*

RALPH V. SMITH, M. D.

TULSA, OKLAHOMA

It has been said that the World War developed no really new principles in surgery; yet, because of the vast amount of material and nature of wounds, an experience was gained in the treatment of the wounded, beginning with First Aid and continuing through Base Hospitals to a completion of the case in Reconstruction Hospitals on our own shores, that may well be observed by those called to treat the injured of our industrial army.

More than 80,000 of our soldiers were turned back to us crippled and maimed. Many of them permanently disabled, to a degree ranging from almost nothing to that of total disability. It is the policy of our Government that these men shall be treated until the highest degree of physical and functional reconstruction shall have been accomplished. Possibly more than a million men are injured annually in the various industries of the United States. Of these, it is said 80,000 or more are permanently disabled, while 2,000 are totally so. Should not these industrial cripples expect as much at the hands of the employer of labor, the state and the Federal Government, as has been extended to our war injured?

Passing rapidly through various stages of management of the injured, we begin with First Aid. The organization of no industrial plant is complete without having provided for First Aid to the injured. In the larger plants, a well equipped First Aid Station should be established, while in smaller plants, fellow workmen should be given some instruction in caring for their fellows. The final anatomical and functional recovery of many cases depends largely on timely and efficient First Aid. Especially does this apply to wounds of bony structures, and many times to extensive wounds of soft parts as well.

Immediate splinting serves to minimize trauma and reduces the tendency to shock. In war practice the system of splinting was so standardized that four or five splints could be made to fit all conditions. First among these stands the Thomas splint. While its field of greatest usefulness is in the transportation of fracture cases, yet it may be considered competent treatment throughout the progress of the case. In femur cases alone, in war surgery it has accomplished more in saving life and limb than any other one mechanical agent. Therefore, no First Aid Station; no civilian ambulance, whether operated privately or by corporation, is adequately equipped, unless it carries with it a Thomas splint, and attendants well trained in its proper application.

In hospital management of the industrially wounded much may be learned from experience gained in Base Hospitals. Aside from the truly professional and scientific treatment directed by the surgeon, there are two adjuvants that stand out most pre-eminently and assist in bringing these cases to a rapid, and many times, happy termination. Vocational or occupational therapy and the work of Reconstruction Aids. Just as the fact is well established that wounds heal more rapidly if accurate anatomical relations be maintained, so the general condition of the patient may be more rapidly improved by keeping him busy and thus promote a more wholesome mental attitude.

Occupational therapy may be begun early in the patient's hospital life. The making of cotton balls, folding gauze dressings, making traction straps, basket weaving, knitting, drawing, modeling; all have been practiced with the most happy results. The work of the Reconstruction Aids, as evolved in war surgery—first an experiment, later almost an absolute necessity—could well be developed to a much higher degree of efficiency in industrial surgery. Even to one who has had an opportunity to watch the progress of hundreds of these cases it is certainly sur-

*The Chairman's Address, Section on Surgery and Gynecology, Oklahoma City, May 19, 1920.

prising to note how a seemingly hopeless member can be recovered to a high degree of functionation through the efforts of the Reconstruction Aids. The late war developed a large number of intelligent young women, highly trained in this work, the services of whom civilian hospitals and industrial plants should avail themselves.

As in war surgery, so in industrial surgery—the final stage—the crowning effort—is, the rehabilitation of the wounded man. The turning out of the finished product, so to speak.

Compensation legislation is not constructive, and fails in this; that it does not meet the needs of the disabled. The state should demand that the injured be made economically independent. The attitude of the employer of labor toward the industrially crippled is changing to the end that the disabled be given an opportunity to earn his own livelihood, rather than become a pensioner—a public charge, or street mendicant. A campaign of education should be instituted to the end that the prejudice against the crippled be overcome, and they be given a chance to be of some economic value; an asset to the state, rather than a liability.

Many of the large industries, including railroads, mining corporations and manufacturing establishments, maintain their own hospitals. In these should be established curative work shops, gymnasiums, and vocational educational departments, necessary to accomplish the complete rehabilitation of these injured. In some communities a number of smaller industries might join forces in accomplishing the same purpose. Again, some hospitals may well afford to specialize in this class of patients, and the whole scheme of treatment completed under the direction of persons highly trained in this work. The insurance carriers, too, come in for their share of the responsibility, and should work hand-in-hand with the industries in accomplishing the desired degree of efficiency.

Reconstruction and rehabilitation are the watchwords in industrial surgery of today, and must be begun with the very earliest treatment of the case.

The industrial surgeon of today assumes a greater responsibility than ever before. A responsibility to each individual case which does not cease until that case is brought to the highest possible degree of physical and functional rehabilitation.

INDUSTRIAL BLOOD POISONS.

Some months after the outbreak of the war, large users of anilin, finding themselves deprived of their usual source of supply, were compelled to engage in the manufacturing business for themselves. Before manufacturing methods were improved, and the process finally discontinued, a number of benzene (benzol C_6H_6) and anilin intoxications occurred which C. R. Newton, Akron, Ohio, studied at first hand, and the most important of which he reports in this paper (*Journal A. M. A.*, April 24, 1920). It is his opinion, not that benzene and its amino-derivatives possess any very definite cumulative action, but that the anemias of which they are the cause follow a definite intoxication or a series of definite intoxications. It remains to be determined, however, whether or not the inhalation of even minute quantities of benzene vapor from spreading machines, cement cans and other sources would tend to interfere with proper oxygenation of the blood and tissues, even when there is no cell destruction, and thus undermine the worker's resistance to disease.

FOCAL INFECTION AND ITS RELATION TO OBSTETRICS.

This subject is discussed by John E. Talbot, Worcester, Mass. (*Journal A. M. A.*, March 27, 1920), from two points of view: (1) those complications which may be the result of a temporary bacteremia or septic embolus, and (2) those complications which may be the result of the presence of the toxins of chronic sepsis in the blood of a pregnant woman. He mentions breast abscess, tooth abscess, pulmonary embolus and pyelitis as causes and efforts of various disturbances encountered in pregnant women. He points out that bacteria injected into the blood stream of an animal, otherwise aseptically wounded, have a tendency to appear in and infect the aseptic wound or weakened part. It is also true that tissue in the process of production has a weak resistance to infection. If, therefore, bacteria in the blood stream reach the placenta, it is not improbable that they may cause inflammation in the villous membrane. The sluggishness of the blood stream at this point is a factor which tends to improve the opportunity for such a process.

It is Talbot's belief that a very large proportion of the uninduced miscarriages are due primarily to this cause. A focus of infection capable of throwing bacteria into the maternal blood stream becomes a danger and a menace to the life and welfare of the fetus. Nearly every baby which in the author's experience has developed hemorrhage of the new-born has come from a mother in whom he has been able to demonstrate foci of infection in the teeth; and a high percentage of such mothers have shown some signs of toxemia during their pregnancy. For these and other reasons laid bare by brief reference to actual cases, the author urges the importance of the removal of all foci of infection in a pregnant woman.

VALUE OF CORROBORATIVE EVIDENCE OF CYSTOSCOPE, X-RAY AND LABORATORY.

J. HOY SANFORD, M. D.

MUSKOGEE, OKLA.

I assure you it was with pleasure that I accepted the chairmanship of this section. The branches represented in this section are beginning to assume formidable proportions in this grand new State of ours and are becoming to be more and more appreciated by the general profession. We meet annually to discuss the problems met in our specialties and I believe that we should not only report our successes, but also our failures, as the report of both positive and negative results offers the best means for scientific advancement. In reading my brief paper on the Value of the Cystoscope, X-ray and Laboratory, I am doing so with a full appreciation that nothing new is offered, but that something scientifically proven, essentially practical and absolutely necessary for the correct interpretation of the symptomatology and pathology present in urological cases, is not being generally taken advantage of by the profession at large.

I consider diagnosis as the most important, by far, of all the subjects of urology. There can be no doubt that accurate and comprehensive diagnosis has been the most influential factor in the establishment of urology on the scientific plane that it rests today. By the use, separate or combined, of the cystoscope, x-ray and laboratory, we are able to fathom the most obscure pathology and symptomatology and thus intelligently treat the patient.

Let's review briefly the symptoms most often seen in urological subjects, namely; pain, pyuria and hematuria, and see the absolute necessity for the application and use of the cystoscope, x-ray and laboratory.

Pain is the symptom that most often calls for a tentative diagnosis, while fever, regular or irregular in type, localized sensitiveness, chills, loss of weight, pyuria, bacteriuria, cystitis, and hematuria are the next symptoms separately or combined demanding attention. Pain more or less constant in the lumbar region or paroxysmal pain radiating down line of ureters into the bladder, testicle or penis, is clinically renal or ureteral calculus, but practically it may mean lesion in the vertebra, cerebro-spinal syphilis, psoas abscess, sacro-iliac disease, hydro-nephrosis, pyelitis, etc. Pain in the region of the appendix not definite in character should be given consideration and close study for renal or ureteral calculus. Referred pain is often found and of such a characteristic type as to deceive the most expert diagnostician. I have seen cases operated on for appendicitis where the later diagnosis established the fact that a large stone was found in the pelvis of the left kidney. Obscure abdominal pain, especially if pointing suspiciously to the kidney, should receive careful examination to exclude renal tuberculosis.

I recently saw a woman that had been operated on twice for pelvic pathology when tuberculosis of the kidney was the true pathology present. This patient complained of pains in the lower left quadrant with some slight bladder disturbance. Cystoscopic examination showed cicatricial retraction and ulceration around the left ureteral orifice with complete stenosis of the left ureteral opening. Ureteral catheterization was impossible. Catheterization of the right ureter with study of the catheterized specimen proved negative for tubercle bacilli as well as other organisms. Phthalein test showed high percentage both in time of appearance and in fifteen minute collection. Indigo-carmin injected intravenously did not appear on the left side at all but readily showed on the right. Catheterized specimen from the bladder was positive for tuberculosis. Operation disclosed a large pus kidney which was devoid of any healthy tissue and was a shell in appearance. Ureter was thickened and impermeable toward the bladder attachment.

Cases are known to exist where pain, lumbar in type, radiating downward,

is the only symptom, the patient otherwise enjoying apparently good health, but further examination may disclose a pus sac with complete destruction of the kidney. All attacks of pain in the right hypochondriac region with jaundice are not gallstones, as urinalysis may show pus and pyelogram pyonephrosis. Pressure from the kidney distention may cause the jaundice. Cerebro-spinal syphilis with its associated symptom-complex, especially pain and vomiting, is frequently kept under observation for various abdominal pathology only to be diagnosed correctly when blood Wassermann or spinal fluid is examined. A dull aching pain in the lumbar region associated with digestive disturbances is not infrequently treated for various stomach maladies only to be correctly diagnosed by a simple x-ray picture revealing a kidney stone. Also, cases of pyelitis are treated over an indefinite period of time for malaria when urinalysis will show pus and ureteral catheterization pyelitis.

Pyuria demands careful search for the origin of the pus as the lower as well as the upper uro-genital tract and bladder may be source of the infection. Pyelitis, pyonephrosis, pyelonephritis, renal and ureteral calculus, vesical calculus, diverticula, prostatic obstruction, stricture of the urethra, etc., all require elimination in the search for the pus.

Likewise, hematuria requires the same painstaking search for the origin of the bleeding, as tumors of the kidney, tuberculosis of the kidney, stone in kidney and ureter, malignancy of prostate and bladder, benign tumors of the bladder, vesical stone, obstructions at bladder neck, stricture of the urethra, etc., all require elimination.

After reviewing briefly the many causes of pain, pyuria and hematuria, and noting the absolute unreliability of the above mentioned symptoms as an accurate guide in the establishment of a diagnosis, it is easily understood why the cystoscope, x-ray and laboratory are so essential to firmly and scientifically arrive at a proper diagnosis. After giving the symptomatology careful consideration, the next step is to have some definite plan of procedure in examination of the case on hand. Here is where the confirmatory evidence obtained by the use of the cystoscope, x-ray and laboratory is going to save your patient time, money, and untold suffering, and make the examiner feel proud of his scientific efforts, not to mention the avoidance of surgical errors that are absolutely inexcusable.

The following plan of examination was carried out by me while in charge of the Urological service in an Army Base Hospital and was found eminently satisfactory. Examination was a combination of the best in use by Urologists and had for its object the acquiring of all possible information in the shortest possible time, but under the guidance of scientific methods. Routinely, a blood Wassermann, urinalysis, and blood count was ordered on every patient upon admission. Collection of a 24-hour specimen of urine was ordered and after it was inspected for macroscopic pus and blood it was sent to the laboratory. Blood urea was next ordered, and where the case presented serious kidney involvement a two-hour phthalein test was done. Patient was next prepared for x-ray of the uro-genital tract, castor oil and enemas with restricted diet being ordered. Instrumental examination was the next step in the examination of the patient; the same preparation of the patient as previously outlined for x-ray being followed out as shadow-graph catheters, and where indicated, injection of the kidney pelvis with 25 per cent sodium bromid was done. Patient was told to void his urine and then he was catheterized. Any urethral obstruction or residual urine was noted. Catheterized specimen was set aside to compare with the previous specimens collected and for comparison of the catheterized specimen from kidneys. Cystoscope was then introduced and the observation lens used for inspection of the bladder walls, trigone, ureteral openings and sphincter margins. Catheterizing telescope was next introduced, armed with x-ray catheters, and the ureters catheterized, any obstruction of the ureters being noted. Urine was collected from kidneys for bacteriological study, enough urine being collected to allow for the following examination; for microscopic examination, for culture, determination of percentage of urica, specific gravity, and where indicated, animal inoculation. Phthalein test was next done

and, where indicated, pyelography. Radiograph with catheters in situ completed the examination.

Briefly summarized, the following information is obtained by such an examination: (a) Laboratory. Amount of urinary output for 24 hours, specific gravity, presence or absence of pathological elements in the urine, percentage of nitrogen urea, results of culture for bacteria, results of animal inoculation if any was done, study of the relative functional activity of the kidneys, report of the specific possibilities from the Wassermann, per centage of blood urea, and results of blood count, a good indicator of the presence or absence of infection. (b) X-ray. Normal or abnormal outline of the kidney, presence of shadows in kidney and ureter pointing to stone, and presence of foreign body in bladder. (c) Cystoscope, ureter catheter and pyelogram. As to color of bladder mucosa, new growths or calculi present, trabeculation and openings of diverticula and prostatic enlargement. A study of the ureteral openings is interesting. Ureteral meatus upon an edematous base is suspicious of stone low down in the pelvic portion of the ureter. Presence of a few villousities around or within the ureteral meatus is suggestive of polypi higher up. Dilated orifice of ureteral opening is suggestive of dilation higher up, hydronephrosis. Presence of dilated orifice but with eaten out margins and an associated edema and vascularization is indicative of pyonephrosis and most likely tubercular pyonephrosis. Same picture, except the orifice is stenosed and sclerotic, is indicative of tubercular infection. Projection of a wax-like clot from the meatus and tenaciously clinging on is suggestive of a large caseating pyonephrosis. Meatus is normal in the movable kidney, in certain forms of hematuric nephritis, malignancy of the kidney, and in aseptic stones of the kidney. Ureter catheterization allows palpation of the ureter, as it were, and thus determines if there is any obstruction, the kind of obstruction, location of same and where indicated, renal lavage. Also separate specimens of urine are collected for bacteriological study and the relative functional activity of the kidneys is determined. Pyelography brings out the outline of the kidney more distinctly, discloses small uric acid calculi that are sometimes not shown by the x-ray and shows to better advantage any distortions of the ureter.

Before closing, I would like to cite just one interesting case that will prove the value of the use of the instruments of diagnostic precision in definitely determining the true type of pathology present: Mr. R. Clinical diagnosis—Probable renal or ureteral calculus. Brief history of case—Seized with sudden acute severe pains in region of the left kidney radiating down line of ureter toward bladder and testicle. Associated with the above symptoms were shock and vomiting. No blood was passed, though the patient stated that a dark gelatinous material was passed following a severe paroxysm of pain. Pain necessitated morphia in large doses. Referred to me for cystoscopic examination and x-ray with shadowgraph catheters in situ. Urinalysis negative for pus and red blood cells. Albumin present in small amount. Blood count 11,000. Wassermann ordered. Results of cystoscopy—No obstruction met in the introduction of instrument. Bladder capacity 250 c.c. Anterior bladder wall negative. Posterior bladder wall showed a marked trabeculation. Trigone normal. Internal vesical sphincter markedly relaxed. Both ureters normal in appearance, both catheterized and no obstruction met. Urine clear from both kidneys, specimen collected for bacteriological study. Patient radiographed with catheters in situ. X-ray negative for stone. Results of examination—Negative for renal or ureteral calculus. Trabeculated bladder with no obstructive condition to account for same associated with relaxation of the internal vesical sphincter was suggestive of possible cerebro-spinal syphilis. Wassermann returned 4 plus positive. Under anti-syphilitic treatment this patient's recovery from further attacks was accomplished as was a marked general improvement in his condition. Interesting points about the case were: (a) Marked similarity of clinical symptoms to renal or ureteral calculus. (b) Value of prompt urinalysis and blood count to direct attention to the possibility of other pathology as a factor in the production of the symptomatology. (c) Value of

cystoscope, x-ray and ureter catheters in firmly establishing the absence of renal or ureteral pathology. Importance of routine Wassermann in all cases presenting urological symptoms.

CONCLUSIONS.

1. To avoid surgical errors and misapplied therapy routine examinations as previously outlined in this paper should be done on all cases presenting urological symptomatology and pathology.

2. Better appreciation by the profession in general of the value of cystoscopy and ureteral catheterization with study of the catheterized specimen and the application of the various kidney functional tests in all kidney surgery and therapy should be the rule rather than the exception. I will take advantage of this opportunity to remark that the mortality in surgery of the prostate would be much less if the various kidney functional tests were applied before and after suprapubic drainage, and a better appreciation of the fact that a negative urinalysis is not always an indicator of good kidney function, and that a positive urinalysis is in turn not always an indicator of poor kidney function.

3. Education of the laymen by the profession to the importance of thoroughness in diagnosis in arriving at a scientific and correct interpretation of the ailment and the value of the cystoscope, x-ray and laboratory in the formation of a sound and concrete diagnosis in lesions of the urogenital tract.

TESTICLE TRANSPLANTATION.

Operations have been performed by L. L. Stanley and G. D. Kelker, San Quentin, Calif. (*Journal A. M. A.*, May 29, 1920), in eleven cases with human material, and five with testicles removed from young rams. The time elapsing since the use of the animal tissue has been too short to make any deduction as to its value. In five patients, only one testicle was implanted into the scrotum, while in six others, double transplantation was performed. Results have been apparently as good with the single as with the double graft. One whole testicle of a ram was imbedded in the scrotum of each of two patients, but they began to slough in seven and sixteen days, respectively. One came away entirely, while a small part of the other remains after six weeks. In three other cases, only half of a ram's testicle was used, but in all, sloughing began seven days after the operation. The authors are of the opinion that the transplantation of human testicles has a decidedly beneficial effect on the well-being of the patient. They do not believe that the implant lives. Probably during the process of necrosis, certain bodies are given off into the lymphatics or blood stream which stimulate the patient in some unknown way. The authors are unable to determine whether these beneficial effects are due to any action of the interstitial cells of Leydig or any other definite part or parts of the testicle, although they have certain evidence which seems to show that possibly the interstitial cells have more effect than the seminiferous structures. On microscopic examination of the testicle to be implanted in one case the epithelial cells of the seminiferous tubules were vacuolated and more or less degenerated. In places the intertubular tissue was dense and cellular. There were small islands of these cells scattered about, which might have been interstitial cells. They were relatively large, with rounded nuclei. The same tissue engrafted into a eunuchoid, aged 43, caused sexual desire to appear, whereas it had not been present before. The length of time which these beneficial effects last has not been definitely determined by this work. It is probable that it lasts more than a year. All the patients that are benefited are still enjoying this improvement.

CONSERVATIVE OBSTETRICS.*

C. V. RICE, M. D.

MUSKOGEE, OKLAHOMA

At the beginning, I wish to thank the Section for your kindness in making me Chairman of this meeting. I have tried to arrange a well balanced program and to secure papers not only interesting to the specialist, but to the general practitioner. He is the one after all who is the strong arm of the profession. In selecting the subject for my address, it is not my intention to tell you anything that you already do not know, but to emphasize some of the important facts that you do know—facts of prenatal, active, and postpartum obstetrics, touching on some of the important indications in abnormal cases. The man who is conservative in his obstetrical work is the one who will meet with the greatest success and will be doubly repaid for his efforts and patience.

Every pregnant woman in the care of an obstetrician should have at first a very thorough examination, as thorough as if she were being examined for insurance. If, in the examination of the lungs, lesions are found in the early months, we are justified in advising an evacuation of the uterus, but after the fifth month the case should go to term as the end results would be the same. On the other hand, heart lesions, after the fifth month, may make an induction necessary if there is decompensation, but if the heart is compensating, labor at term will give us as good results as the premature induction. We should make these labors as easy as possible, using methods that will result in the least strain and shock to the patient. If, in a heart case, there is a question of letting her go in labor, a cesarean under local may be considered.

The teeth should have more consideration. If the patient gives a history of rheumatism, she should be x-rayed for root abscesses and if found, the teeth should be removed. If infected teeth will cause nephritis in the male, what might we expect in a pregnant woman under the same condition? The tonsils must not be forgotten at this time. If they are giving trouble, they should receive treatment before pregnancy advances. The removal of all foci of infection may mean the prophylaxis against sepsis and toxemia, and when these foci cannot be cleaned up, we must watch the patient with greater care, remembering that she is the one who may give us trouble.

The patient should have instructions in printed form, emphasizing correct living, habits and care at this time. It is as necessary for the rural doctor to go into detail with his patients as the city doctor or the specialist. In doing so, he will no doubt save many cases of eclampsia. Should this condition develop, who can tell the outcome? The best treatment is prevention. Eclampsia is to the obstetrician what pneumonia is to the medical man. The patient dies in spite of you or gets well in spite of you. The obstetrician however, has the advantage, as he has the power of prevention. If every doctor gave his patients the proper antepartum treatment, you would not hear of a case of eclampsia.

The same measures should be taken in the treatment of infection as in toxemia—prevention. We shall have child bed fever with us so long as the vaginal examination is made during labor. How simple to prevent, but how hard to cure! Fifteen minutes after the patient is infected, the exciting cause is beyond reach. Orphans and invalid mothers are made as the cure depends upon the resisting power of the patient. There would not be 35,000 cases annually of puerperal infection if the proper precautions were taken, and the death rate in the child-bearing woman would not be second to tuberculosis.

In a paper on rural obstetrics, Dr. Grace Meigs, recently of the Children's Bureau of Labor, states that in a certain prosperous township in the middle west, almost all the mothers interviewed had medical care at confinement, but inadequate

*The Chairman's Address, Section on Pediatrics and Obstetrics, Oklahoma City, May 19, 1920

prenatal care. Only three out of fifty had a urinalysis. One, pelvic measurements had been made and yet in a number of these cases, pregnancy was not normal. Four of the fifty were delivered with forceps and one of these four mothers had a constant hemorrhage following labor and died a day later. The late Dr. Herbert Stowe said: "There are two things every obstetrical bag should have to save life, —one is a sufficient amount of sterile uterine gauze for packing the uterus in case of hemorrhage and the other is a tracheal catheter to use in asphyxiated babies."

There is no greater calamity than that of losing a patient in child birth. Perhaps no one has expressed it more tensely than the well known novelist, Peter Clark McFarlane, in speaking of losing his wife: "A life was taken from my life, that life which for fifteen years had buoyed my hopes, endured my hardships and inspired my perseverance. Emma Garfield McFarlane smiled at me one Sunday morning, brave as always, though she was entering the shadow of the crisis of motherhood, and I went to my pulpit expecting to return and hold hands with her through the hour of trial. When I came back the trial was unexpectedly over. She was gone and her last gift to me was another tiny life. For a time this terrifying blow swept away even my faith in immortality." The cause of this calamity probably was postpartum hemorrhage. Fortunately, this condition is comparatively rare, but we should guard against it by the proper preparation and technic.

Perhaps, the next thing to be considered is the too often used forceps. They are used more by the surgeon who is doing obstetrics than by the internist who does obstetrics. This may be due to the training of the surgeon to get in and out, cut and tie, and he has not the patience to play tincture of time. The doctor who boasts of his skillfulness in applying the forceps, perhaps, is the one who turns his patient across the bed, places his foot on the rail and pulls, or has another member pull him at the same time. This method cannot spell anything but disaster. When forceps are indicated, how much more dignified it is to put the patient on the kitchen table and do the operation in a clean surgical manner. Forceps should never be applied to save time for one's own self. If you have not the time to give to this branch of medicine but take it only to hold the practice of the family, the chances are that the patient will suffer and will not receive the proper prenatal, active, nor postpartum treatment. There are two counter indications for the forceps that are sometimes overlooked. First, when the cervix is not fully dilated and, second, is the application to a floating head, spelling disaster in many cases to mother and child. One should try to eliminate the necessity for the use of forceps rather than being an expert in applying them.

The next most useful assistance we have in obstetrics that is used to abuse is pituitrin. One must remember a few important facts in its use. First, complete effacement and dilatation. Second, in the second stage of labor where the passage offers no obstruction to the passenger. Third, it must never be given in the presence of a contraction ring. Fourth, it must never be used in primipara in the premature labor as the contraction causes too great a pressure on the premature baby, resulting in injury to the central nervous system and the baby dying fifteen or twenty hours after birth. It is very hard to improve on nature's methods and one should cater to them. By so doing, we will be playing "safety first."

The next obstetrical operation that is being abused by the general surgeon is cesarean section—wonderful operation in selected cases where there is absolute disproportion between passenger and passage. Border line cases with contracted pelvis should always be given the test of labor. With a complete placenta previa, premature separation of the placenta and in some cases of severe toxemia with a long hard cervix demanding an imperative indication for a rapid delivery, the cesarean may be the operation of choice. However, weigh all indications religiously and think what you would want done if the patient were a member of your own family. These are the cases where obstetrical judgment is the most important thing connected with the case.

Another thing sadly neglected during labor is the taking of fetal heart tones.

Babies are lost because this is not practiced by the majority. Especially is it important in the second stage of labor before the head is born. The lengthening of the uterus causing dislocation of the placenta, compression of the placenta, compression of the cord and tightening of the cord around a fetal member, all occur during the second stage of labor. The baby is lost unless the danger is recognized early and this can only be done by taking the fetal heart tones. The more carefully they are taken during the second stage, the more will be added to our knowledge of the accident of labor and of the diseases of the child during the first days of its life.

A few words should be said about prolonged pregnancy. It is not good practice to allow gestation to prolong after the natural term has passed. No doubt many babies as well as mothers have suffered with this neglect. If we are not sure from the data given by the patient, such as the last menstruation, quickening, etc., and no great value can be placed upon the objective signs, we should resort to the direct measurements of the length of the fetus in the uterus. When the patient goes over time, there are certain changes which take place in the fetus. The head enlarges, the bones harden, the spinal column is hard and less flexible, and in fact, the fetus may be overgrown in every way. As Dr. DeLee says, "The child may die from no other cause than that of being over-ripe." In my own practice, I allow the patient to go one week over time and if she does not go in labor, I then try to induce it first by castor oil and quinin. This seems more satisfactory given when retiring as the patient will go in labor easier at that time, than when given during the day. This is hard to explain, unless it is more natural for labor to take place at night and the uterus is easier excited. If this method fails, I then resort to the bags and have never had any bad results from this practice. If there is any mistake made in time, it is better to be a week or two premature than over time, and by following this rule we are aiding in the reduction of infant mortality.

THE FUTURE OF OBSTETRICS AND GYNECOLOGY.

The topics considered by Reuben Peterson, Ann Arbor, Mich. (*Journal A. M. A.*, May 15, 1920), in his address, as chairman, read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the seventy-fifth annual session of the American Medical Association, New Orleans, April, 1920, are: the specialty of obstetrics and gynecology; training of the specialist in obstetrics and gynecology, and the relation of abdominal surgery to obstetrics and gynecology. He states that the trained obstetric and gynecologic surgeon must be versed in abdominal as well as pelvic surgery in order to be competent to meet the emergencies that will arise in his special surgical work. While making no claims for specialization in abdominal surgery, the obstetric and gynecologic specialist must be prepared at any moment to resect the intestine and care for the appendix and gallbladder, if such surgery is demanded when the abdomen is opened for pelvic disease. This is only justice to the patient, and is common sense as well. In order to be competent in surgical work of this description the obstetrician and gynecologist must not only have had the necessary technical experience but must be conversant with the literature and the constant improvements taking place in abdominal surgery. Actual experience and technical skill in abdominal as contrasted with obstetric and gynecological surgery should be acquired in departmental hospital clinics by co-operation with the general surgical clinics. Arrangements can easily be made for interchange of services at some period of the training, to the mutual benefit of the members of both the obstetric and gynecologic and general surgical staffs. In fact, this principle of free interchange of services should not be confined to surgery alone, but should apply to all departments of the hospital, where such an arrangement will make for better training in obstetrics and gynecology.

PROBLEMS OF THE WAR RISK EXAMINER.*

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OKLAHOMA CITY, OKLAHOMA

In accordance with the suggestion of Dr. C. A. Thompson, Secretary of the Oklahoma State Medical Association, the Surgeon-General of the United States Public Health Service detailed me to attend the session of the Oklahoma State Medical Association, which is meeting in its 28th annual session today. I will attempt to submit to you an outline of the work being done by the Public Health Service in Oklahoma at the present time.

The authority for the United States Public Health Service to assume this responsibility is contained in the War Risk Insurance Act, of which you are all more or less familiar. The Public Health Service is an organization noted for its efficiency and a great amount of scientific research, and of general benefit to the public at large. To be Surgeon-General of such an organization is a big job and calls for a big man. There is a close connection and a great similarity between the Public Health Service and the average physician in civil life. It is a service that is not advertised as are some of the other services. Its personnel is composed of thoroughly efficient physicians and surgeons. We are all familiar with the service performed by the United States Public Health Service prior to our declaration of war with Germany, in the eradication of the many and various forms of disease, especially the diseases carried from the tropics to this country. During the war with Germany the extra cantonment service was efficiently performed by a representative of the United States Public Health Service. The civilian population were instructed and educated in sanitation and public health. Had it not been for the ever-vigilant Public Health officials among the civilian population, it would have been impossible for those of us who were in the military service to have kept down our sick rate that was always in our minds.

The Surgeon-General of the United States Public Health Service and his corps now have an increased responsibility and a situation requiring tact, far-sightedness, conscientiousness, impartiality and fairness to the former service men and to the Federal Government. No task has ever been placed upon any organization in America equal to that now required of our service. After the Civil War the pension system was inaugurated, and those of us who are middle aged can well remember many inequalities, delay and dissatisfaction caused by the unorganized pension system.

For the purpose of aiding in the work of furnishing relief to discharged, sick and disabled soldiers—and when I say soldiers, I mean all former service men—the United States has been divided into fourteen districts. Each district is in charge of an officer of the service, the purpose being the supervision of the work in question in such a manner as to furnish the means of getting into closer contact with the beneficiaries of the War Risk Insurance Act, and those who seek to become claimants upon this service, and to serve as the agency of the Bureau of War Risk Insurance. The 14th District comprises the states of Oklahoma, Texas and Arkansas. Three hundred and eleven thousand men went to war from these states, and when you take into consideration three hundred and eleven thousand young men, or a large majority of them, were at some time or other patients in one of the army hospitals, you begin to realize the task that confronts us. Surgeon John M. Holt, of the regular United States Public Health Service Bureau, is the District Supervisor for this district. He has an intelligent sympathy for the soldier and yet at all times protects the Government against those who would impose upon its generosity. He is a skilled surgeon and possesses a broad knowledge of his duties. He is a good judge of human nature and possesses administra-

*An Address delivered to the War Risk Examiners of Oklahoma, 28th Annual Meeting, Oklahoma State Medical Association, Oklahoma City, May 18, 1920.

tive ability in an unusual degree, and has the backbone to do the right thing under any and all circumstances. He has a world of tact and patience and is not afraid of hard work. When he took over the work of this district I know personally that he was confronted with a serious condition. The district was unorganized, but I am now proud to say that it is an example of system and efficiency. He has been very successful in the organization of his force and in the selection of his staff and local examiners. He is courteous and considerate toward the soldiers and expedites the consideration of their claims in every possible way.

The service which is being rendered is not only a great help to the soldiers but to the state and country as well. The problem of proper administration of this work is one of the really big problems of the hour. It means something to the country that the maximum of aid shall be given to all worthy ex-service men, and the Government must be protected against inefficiency and waste.

The State of Oklahoma is at the present time well organized. I feel that we have an excellent corps of local medical examiners, who have the esprit de corps and who have the best interests of the service at heart at all times. In Oklahoma City we have the most important station in the state. My service here is similar to that of a State Supervisor. We have on duty the following attending consultants: Surgery; eye, ear, nose and throat; orthopedics; internal medicine; neuro-psychiatrist; dental surgeon; genito-urinary; and myself, as Administrative Officer. A most important duty rests upon the local examiner. He examines all service beneficiaries applying to him for treatment of their own volition or by the direction of the District Supervisor. Prior to December, 24, 1919, only those who were discharged since October 6, 1917, were beneficiaries of the War Risk Insurance Act, but since the enactment of the law known as the Sweet Bill, the law has become retroactive and goes back to the declaration of war. To become a beneficiary of the War Risk Insurance Act a former service man must apply for compensation. The procedure is as follows: He is required to accomplish from 526, following carefully the printed instructions on the front page, furnish a certified copy of his discharge and a copy of form 539. After he has completed these forms he appears at your office for examination. You complete the examination, attaching your fee thereto, and forward the completed papers to the District Supervisor, 313 Mason Building, at Houston, Texas. Or if the claimant has previously filed this application and comes to you with a compensation number and is identified, this is sufficient authority for you to examine him. It is better procedure, however, to have an order from the District Supervisor for you to examine the claimant. In every instance, however, before anything is done for the claimant, you must identify him. If there is a doubt in your mind about the C-number being authentic, have him produce his certificate of discharge and compare the several points; that is, the color of the eyes, hair, height, etc. The examination of claimant is then to be made in conformity with the approved schedule furnished you by the District Supervisor. This schedule is a guide and not a form to be filled in. Examinations in every case are to be full and explicit and fully and clearly recorded, so that a fair and impartial decision may be reached. You must at all times remember that this report is the only record the Chief Medical Advisor has to aid him in his decision, and if it is not clear and concise, you are imposing upon the service and the claimant. Much time is lost in securing additional data or requiring another examination, an increased expense to both the Government and the claimant. I do not want you to infer that technical examinations are to be done as a routine procedure in every case, for a large proportion of cases can be easily diagnosed without laboratory findings.

If, after examination, you have found that the claimant is in need of immediate treatment, you will render such. Most of the work that you are called upon to perform is of a simple nature so far as complicated routine is concerned. Now and then a claimant will present himself for examination who is in a serious condition and he should be admitted to a hospital at once. I would advise you to admit him and at once communicate with the District Supervisor. The Bureau of War Risk

Insurance has fixed a flat rate of \$3.00 per day for hospitalization. This includes nursing and all such ordinary medicines and surgical dressings as the case may require.

Never intimate to the claimant any of your findings. I have been asked many times for a decision or a copy of the report. This I never divulge. It is a confidential communication from you to the Chief Medical Officer for his information alone. I do, though, inform the claimant that his degree of disability is not rated by me. Understand, I am not attempting to shirk any responsibility, but the local examiner is the man who is directly in contact and subjected to criticism, if any, by the claimant. In making these reports you are not to go beyond the general statement that the disability of the claimant is more than ten per cent or less than ten per cent. When a reasonable doubt exists whether the disability or the injury occurred before discharge you should attempt by all honorable means to obtain this information in the statement submitted to the District Supervisor. The claimant must present evidence of the illness or disability at the time of his separation from the service. This is done by two methods: The certification of his disability on his official discharge, or we could go back to his hospital record. But where a reasonable doubt exists, and the applicant is in need of treatment, place him under treatment and render a statement as mentioned above.

Occasionally you will be called upon to make an examination for the Federal Board for Vocational Education. The examination reports are similar, but in addition to our regular examination, you are required to state as to whether or not the claimant has a vocational handicap. A man may be injured and not entitled to vocational training. A man who is a farmer and has lost a finger does not have a vocational handicap, because he can perform his usual occupation without any inconvenience, but if he happens to be a skilled mechanic or a typist, he has a vocational handicap. However, at the rate we are going in this state, I feel it will not be a great while until all who are entitled to vocational training will have been examined and the situation generally cleared up.

I know about the class of cases that you would have appear in your office for examination. You must always be on the alert for malingerers. The country is full of such individuals, and they will attempt to impose upon you if you are not thoroughly on your guard.

You will be called upon to examine many so-called gassed cases. I do not know the experience of other stations, but I do know that so-called gassed cases have little pathology. There are more individuals suffering from the after-effects of influenza than there are from gas.

You must discriminate closely between the chest diseases. I examine many men who have been reported to me as tubercular who simply have the bronchitis, and with laboratory and x-ray facilities always at hand, I occasionally make a mistake and diagnose a case as tubercular when later on it is found that it is chronic bronchitis or pleurisy. On the other hand we do find a great number of tubercular soldiers in its various and treacherous forms.

Next in importance comes the glandular diseases; that is, thyroiditis. Quite a number of young men have appeared at this station with this condition, but you must take into consideration that the use of tobacco is so general that many an irritable heart is caused from the excessive use of tobacco. We find some hearts damaged by over-exertion, and as you know, rest will favor compensation.

There were approximately 25,000 fractures in the military forces in the war with Germany. Approximately 15,000 were fractures of the long bones. It is extremely important for you as examiner to make your report clear enough to determine the degree of disability in these cases. Be explicit in the degree of vocational impairment, including especially limitation of motion, shortening and angulation. If you are so situated, I would advise you, if possible, to make it a routine procedure to have a Wassermann on as many cases as possible. I can cite you several instances in my service, one especially a few days ago, of necrosis of

the inferior maxillary bilateral. He had been treated by various doctors and dentists. The bone curetted, but the necrosis continued. The Wassermann revealed a 4 plus. I immediately put him on intensive anti-syphilitic treatment, and the necrosis has subsided.

In a great number of the valvular diseases we find that the pathology is due to syphilis, many more than you would suspect.

You will occasionally be consulted by a man who desires a permanent artificial limb or some prosthetic appliance. At once communicate with the District Supervisor relative to such cases.

In the larger cities we are confronted by many drug addicts. The question then arises whether or not this man is compensable. Of course, you will not attempt to render an opinion in this case, but make a careful and critical examination and forward your report to the District Supervisor. The Bureau will determine whether or not the man is entitled to medical care and attention and compensation.

Another class that we have to deal with is the mild nervous and mental cases, and so-called "shell-shocked." I have two cases in two different families at the present time which are dementia-precox. We have at the present time about 35 or 40 precox and maniacal depressive types of insanity in the state institutions in this state. The Neuro-psychiatric disorders arising under the conditions of modern warfare are not fundamentally different from conditions arising under the stress of civil life. You have encountered many times in your own practice prior to the war, young men who were attempting to branch out in life for themselves, but who broke down under stress and responsibility, and failed. It is possible that the service hurried many of these cases along, and they would have developed sooner or later had it not been for the war. I have found more cases, however, the sequela of cerebro-spinal meningitis, and influenza, than I have from any other cause.

You will also be called upon occasionally to report a case of peripheral nerve injury, especially in wounds of the legs and arms, the so-called "toe drop," and other manifestations.

A word or two on dental treatment. The Bureau has authorized curative and prophylactic treatment in cases of systemic infection due to pyorrhoæa alveolaris, but please inform the claimant that the Bureau does not authorize the replacement by bridges of extracted teeth unless extracts were made for the purpose of relieving pathological conditions. I have had more requests for bridge and crown work than any other, the desire being purely for cosmetic purposes. However, in all cases of bridge work and other such conditions the matter is referred to the Bureau for decision. When a claimant appears at this station for dental treatment, if he has no C-number, he is required to apply for compensation by the usual method. He is then examined and transferred to the dental surgeon. I presume that you have a dental examiner in your city. If you have not, it will not be a great while until one will be appointed.

The appointment that you have received as medical examiner carries with it no small amount of responsibility. It is an honor and a distinction and will be of more or less advantage to you locally. Let me urge upon you to advertise the service so that it may become generally known that the United States Public Health Service is attempting to do everything within reason for the former service men so far as their physical condition is concerned. You should at all times protect and maintain the good name of the service for it will be criticized more or less, and as you are a direct representative, it is your duty, and it behooves you, to explain the situation. The service needs no defense, simply an explanation wherein any complaints or criticisms are made. You can do a great work in your community in this manner, and I urge you to make every possible endeavor to co-ordinate your efforts and to work in harmony with the Red Cross and the American Legion. I have recently assisted in the organization of soldiers' welfare committees, consisting of the United States Public Health Service examiner, the Red Cross,

American Legion, and other civic clubs. These welfare committees have been organized in Ardmore, Oklahoma City, Muskogee, Tulsa, Vinita, McAlester, Hugo, Durant, Lawton and Enid, and I feel very confident that a great amount of good work will be done.

In closing, I would like for you to know that approximately 2,000 examinations have been made at this station, and 100 major operations performed, as well as in the neighborhood of 400 men admitted to the local hospital for treatment.

With the closing of this paper, I would wish, if the time would permit, to conduct a round-table discussion, whereby we may exchange ideas, views and experiences, and to ask and answer as many questions as possible pertaining to the service in the allotted time.

WANDERING APPENDIX.

(Case Report).

McLAIN ROGERS, M. D., AND VICTOR M. GORE, M. D.

SURGEONS TO CLINTON HOSPITAL AND
TRAINING SCHOOL

CLINTON, OKLAHOMA

Mr. R. B. A., age 45, farmer, living in Washita County, was admitted to our service February 12, 1920. He was suffering with an acute bowel obstruction. He gave a history of an abdominal operation in 1911. The record of that operation as furnished us by the El Reno Sanitarium shows that the appendix and caecum were involved in one mass under which was pus. The walls of the caecum were thickened. The abscess was drained and diagnosed as of appendiceal origin. The patient made an uneventful recovery and was discharged from hospital June 14, 1911.

Operative findings February 12, 1920: A loop of bowel, ileum, was bridged across by a heavy band. Through this opening a number of loops of bowel had herniated and become strangulated. This band proved to be the appendix which was not attached to the caecum at all. The appendix was two inches in length. It was attached by its base to the ileum some fourteen inches from the ileo-caecal valve, was patent from base to tip, admitting a large pen stock throughout its lumen. The tip of the appendix was attached in the mesentery of the ileum about eight inches from the caecum. Appendix was removed and stump inverted. The caecum was examined and scar of appendix original attachment recognized. Patient recovered and was discharged from hospital March 4, 1920.

STATE MEDICAL SERVICE.

Walter A. Jessup, Iowa City (*Journal A. M. A.*, April 17, 1920), in outlining the larger function of state university medical schools, says: Our experience in Iowa leads to these conclusions: First, in view of the great rapidity with which the demands on our hospital and university staffs have grown, it is important that any state in attempting to provide this type of service, should make liberal provision in space and staff for adequate service not only to indigents, but also to the ever growing number of pay patients. Second, future plans should include ample provision for the vigorous prosecution of medical research. Otherwise the teaching staff may easily be overwhelmed with routine, with a consequent slump in growth. Furthermore, the unusual clinical demands serve as a constant challenge to the student of medicine. Third, since the success of the work is absolutely dependent on skill and devotion of the staff, it is essential that many adjustments in the conditions of teaching must be made. The problem of full time clinical teaching becomes more acute.

Other departments of technical education have had to meet the same situation. Indeed, in the field of agricultural education a very large part of the function has been the providing of service for the public. So much is this true that it would be hard at the present moment to conceive of a college of agriculture without its elaborate organization in the direction of special service to the state. Within the next few years we may expect in many state universities just such close co-ordination in the problems of the training of physicians, furthering research that will contribute to the knowledge of the field and extending health service to the public. In the degree that the colleges of medicine of the state universities are alert to these new demands and effective in their responses will they become real leaders in this present movement looking toward the highest type of physical and mental efficiency.

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The editorial department is not responsible for the opinions expressed in the original articles of contributors.

Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscript or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, 508 Barnes Building, Muskogee, Okla.

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A. will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

EDITORIAL**TRANSACTIONS, TWENTY-EIGHTH ANNUAL MEETING,
OKLAHOMA STATE MEDICAL ASSOCIATION****Oklahoma City, May 18-20, 1920; 2:00 p. m.****HOUSE OF DELEGATES, MAY 18, 1920.**

Called to order by the President, Dr. L. J. Moorman, Oklahoma City. Motion to dispense reading minutes of past meeting, by reason of their publication, carried.

President announced appointment from the Council of an auditing committee at a prior meeting of the Council. Membership Drs. C. W. Heitzman, Ellis Lamb, and J. L. Austin; also a Committee on Credentials composed of Drs. Ellis Lamb, W. G. Ramsey and W. R. Leverton.

Dr. Horace T. Price, Tulsa, read report of the Committee on Tuberculosis. (See Committee Reports.)

Committee on Necrology was directed to report to the General Meeting. (See Report.)

The President took occasion to commend the committees reporting; suggesting that the nearly universal neglect of study and action on the part of standing committees had almost prompted him to discharge all committees at the beginning of his term and replace them with a membership of one man.

A Committee on Resolutions was appointed, the personnel being Drs. G. A. Boyle, Enid; W. J. Muzzy, El Reno; and C. S. Bobo, Norman.

Dr. C. W. Heitzman, Chairman of the Auditing Committee, read report of that committee. (See Reports.) A motion by Dr. J. L. Shuler, Durant, to adopt the report as read; which carried.

Dr. C. A. Thompson, Secretary-Treasurer-Editor, submitted to the House his report from May 1, 1919, to April 30, 1920. Motion to adopt the report carried. (See Reports.)

Dr. W. J. Wallace, Oklahoma City, Chairman, Committee on Venereal Diseases, announced that he had no special report to make, that his colleagues had not co-operated in the work; that the situation was due to the fact that the members were not specially interested in that work. He suggested that hereafter the President appoint one man to head the committee and empower him to name his associates.

The meeting then adjourned to reassemble on call of the President if necessary.

C. A. Thompson, Secretary-Treasurer-Editor.

GENERAL MEETING, MAY 18, 1920.

The general meeting was called to order May 18th at 8:00 p. m. by the President, L. J. Moorman, of Oklahoma City. The Rev. S. J. Porter offered an invocation, which was followed by address of welcome on behalf of Oklahoma City by Judge Thos. H. Owen. Dr. A. S. Risser of Blackwell responded for the State Association.

The report of the Necrology Committee was next presented by Dr. C. W. Heitzman of Muskogee and finally, Dr. C. C. Bass delivered an address on the subject of Malaria.

HOUSE OF DELEGATES, MAY 20, 1920.

Call to order by the President.

By unanimous consent, Dr. A. L. Blesh, Chairman, Committee on Medical Education, read report of that committee, which was adopted by the House. (See Reports.) After the Credentials Committee reported the membership of the House.

The election of officers resulted as follows:

President-Elect, Dr. G. A. Boyle, Enid; First Vice-President, Dr. J. L. Austin, Durant; Second Vice-President, Dr. H. A. Lile, Cherokee; Third Vice-President, Dr. T. T. Norris, Crowder; Sec.-Treas.Ed., Dr. C. A. Thompson, Muskogee; Term expires 1923.

Councilors:—Second District, Dr. L. A. Mitchell, Term expires 1923, Frederick; Fourth District, Dr. J. T. Slover, Term expires 1923, Sulphur; Seventh District, Dr. C. H. Ball, Term expires 1923, Tulsa; Delegate to A. M. A., 1921-1922, Dr. L. J. Moorman, Oklahoma City; Meeting Place, 1921, McAlester, Oklahoma.

Dr. G. A. Boyle, President-Elect, addressed the meeting in a few appreciative words.

Dr. E. S. Lain, Oklahoma City, addressed the House on the custom of sending past presidents as delegates to the A. M. A. Pointing out that the states holding most power in the National Body were those who sent practically the same delegation year after year and that our state by reason of sending new ones annually was handicapped by reason of lack of acquaintance and familiarity with the rules, the result being scant recognition of our delegates. He suggested that we should select hereafter a couple of good men and keep them there for life. Specifically naming Dr. G. A. Wall, Tulsa, as particularly qualified for such task, and also disclaiming any intent to criticize the selection of Dr. Moorman, who declared his willingness to reverse the election if the delegates thought best, as he had no desire to obstruct the organization. Dr. Lain then suggested that our Association keep Dr. Moorman on the job for the rest of his life. No action was taken.

Dr. M. Smith, Oklahoma City, Councilor for the Southern Medical Association, addressed the House, extending an invitation to Oklahoma physicians to attend the Annual Meeting of that organization in Louisville, Ky., in the fall of 1920.

Messages of congratulation and good will were received from the Southern and West Virginia Medical Associations.

Recommendations of the Council and Resolutions were adopted. (See Reports and Resolutions.)

Dr. W. Albert Cook, Tulsa, filed the following proposed amendment to the Constitution and By-Laws:

Change Section 3, Article 9, Constitution, line three: Strike out the words, "the last day of the Annual Session," and substitute the words, "the second day of the Annual Session."

This will change the election of officers to the first order of business of the second day of the Annual Session. The proposal automatically lies over for one year before vote in the House of Delegates.

Dr. Cook also filed a proposal to change the By-Laws, as follows:

Add to Chapter 2:

"Section 3. The scientific sections shall begin their meetings on the first day of the Annual Session at such hour as may be deemed best by the President, Secretary-Treasurer-Editor, and Chairmen of the Sections. These officers in selecting the time of such meetings shall be governed by local conditions and expediency, taking into consideration all possible economy of time and comfort of the members attending."

Chapter 4—House of Delegates, Section 1. It is proposed to change this section to read:

"Section 1. The House of Delegates shall meet on the first day of the Annual Session at such hour as may be determined by the President, President-Elect, and Secretary-Treasurer-Editor. It may adjourn from time to time as may be necessary to complete its business, provided, that its hours shall conflict as little as possible with the General Meeting and Scientific Sections. The order of business shall be announced in the program issued prior to the meeting."

The House of Delegates then adjourned.

C. A. Thompson, Secretary-Treasurer-Editor.

COUNCIL, MAY 18, 1920, 11:00 A. M.

Present, Drs. J. L. Austin; L. C. Kuyrkendall; Ellis Lamb; C. W. Heitzman, Councilors; L. J. Moorman, President and C. A. Thompson, Secretary.

The Secretary-Treasurer-Editor submitted his report for the year closing April 30, 1920. Drs. Heitzman, Kuyrkendall and Austin appointed to audit the books and report (See Secretary's Report). Cash book, duplicate deposit books, cancelled checks and check books were submitted for auditing.

Dr. Ellis Lamb was appointed Chairman of the Credentials Committee with authority to select two other members, the committee to receive credentials and dispose of all possible routine before the House of Delegates met.

The condition of councilor districts was discussed, the general opinion being that with few exceptions they were in better condition than ever before.

After examination of the Journal's condition as to advertising and the amount of business transacted, the Secretary was authorized to secure adequate office space to care for files and records, to employ full time stenographic aid or less, at his discretion and as need arose.

He was further advised or instructed to hereafter adopt the policy of close censorship of papers published in the Journal; to abandon the custom of publishing papers read at the annual meeting, offered by county societies or others, unless prepared with care and carrying matter of worth.

The Council under authority of Chapter 1, Section 4, By-Laws, heard evidence in two appealed cases and ordered expulsion of one member and dismissal of charges

against another. For the best interests of the society it was determined to give no publicity to the cases.

Adjourned to meet at noon, Wednesday, May 19, 1920.

COUNCIL, MAY 19, 1920.

Present: Drs. Boyle; Heitzman; Slover; Lamb, Councilors; Moorman, President, and Thompson, Secretary.

It was ordered that the following recommendations be submitted to the House of Delegates:

Creation of permanent Commission to receive and direct use of benefactions.

The Secretary-Treasurer-Editor was directed to prepare resolution referring to erection of University Hospital and the duty and necessity of increasing the establishment. (See Reports, resolutions, etc.)

The Council adjourned.

COUNCIL, MAY 20, 1920.

No business was transacted at this meeting, but a general discussion on the Association's affairs was held.

C. A. Thompson, M. D., Secretary-Treasurer-Editor.

REPORTS OF COMMITTEES AND RESOLUTIONS ADOPTED BY THE HOUSE OF DELEGATES, TWENTY-EIGHTH ANNUAL MEETING.

REPORT OF TUBERCULOSIS COMMITTEE.

In submitting this report of the tuberculosis work in the state for the past year, your committee desires to report progress, though much remains to be done.

Various organizations have contributed to this advancement, such as the State Tuberculosis Association, American Red Cross, Child Welfare Societies, etc. In each of which members of the Oklahoma Medical Association are active.

Dispensaries have been organized in nine cities for the examination and treatment of tuberculosis, regular hours are established for physicians and nurses. Fourteen nurses are taking care of this work, while two colored nurses look after the cases in two dispensaries for colored people.

There are a number of counties, in addition, employing the services of a Public Health nurse, though not exclusively for tuberculosis. This number is increasing all the time.

Probably the more important part of the duties of these nurses is disseminating scientific information relative to the prevention of tuberculosis, its control after infection has become manifest, thereby preventing spread to other members of the family, and its successful treatment in the home in this climate, inducing the family and friends to permit the patient to remain in the state where he is apt to be more satisfied and comfortable and not becoming a burden on other states which have their own tuberculosis problems to solve. It is to be hoped that in the coming years our members will not send tuberculosis cases away excepting under the most favorable financial and social conditions.

An appropriation has been made by the State to build three small sanatoria which may be ready for occupancy in from one to three years and will care for a small per cent of those needing institutional treatment. Our association should endeavor to secure a sanatorium in each county of the state.

Members are also urged to put forth their full capacity in all movements designed to prevent diseases which by weakening the general system, the lungs in particular, are apt to be followed by tuberculosis. A full time, thoroughly trained Public Health Officer in cities and counties, is the only way in which the general morbidity can be reduced.

In conclusion, individual cases of tuberculosis will always require treatment, but the prevention lies in searching out the cases in their incipency—In a word, the thorough examination of our children.

Respectfully submitted,

Leila Andrews, M. D.,
C. W. Heitzman, M. D.,
Horace T. Price, Chairman,
Committee.

REPORT OF NECROLOGICAL COMMITTEE.

Blessed are they who have entered into that peace which passeth human understanding. Though it be selfishness yet we mourn our dead.

While man has mastered the elements and has made them as servants unto him, in the presence of the great mystery—death—he is overwhelmed.

The physician, by the very nature of his calling, dealing with the intricacies of life, has succeeded in banishing the great scourges from the face of the earth and thereby decreasing the toll of death, yet in its presence he is dumbfounded. He may be likened unto the Roman conqueror returning from his victories and marching in the streets of the Eternal City, garlanded with flowers and with the wreath of laurel on his brow. Yet constantly, amid the acclaims of the populace, he hears the words of the slave crouching beside him: "Remember thou art but a man." Words of consolation to the bereaved, though gilded with the purest of refined gold, are but dross.

To have a true conception of what it implies to lose our loved ones we must ourselves have passed the long and cruel night in the "Garden," praying that the bitter cup might pass from us, but it would not, and on the morrow we resumed our fearful march to Calvary. Perhaps, the most beautiful example of earthly friendship was that which existed between David and Jonathan, but it pales into insignificance when compared with that of Simon of Cyrene who bore his Saviour's cross to Calvary. Oh! how we have prayed for a Simon of Cyrene.

The world army is marching on. With startling frequency gaps in the ranks occur. "Close up ranks," is the command—but hark, a sound—the column hesitates but does not stop. It is but the wail of anguish from a broken heart. The army, ceaselessly, marches on. At sunset when the roll is called

B. E. Braselton, Ottawa County
Wm. Johnson, Kay County
W. H. Crutcher, Washington County
G. H. Sanborn, Pottowatamie County
Wm. H. Clarkson, Jackson County
J. H. Barnes, Garfield County
P. E. A. Fling, Choctaw County
C. D. Arnold, Canadian County

G. C. Wilton, Jefferson County
H. H. Gipson, Oklahoma County
A. N. Lerskov, Rogers County
W. C. High, Garvin County
S. H. Landrum, Jackson County
H. H. Wynne, Oklahoma County
Robert S. Willard, Carter County
Israel Hill, Peggs

do not answer to their names, but in the glorious reveille of the morning they will be in the ranks. And as they lived, they died. Proudly they entered the darkness—or the dawn—that we call death. Unshrinkingly they passed beyond our horizon, beyond the twilight's purple hills, beyond the utmost reach of human harm or help—to that vast realm of silence or of joy where the innumerable dwell, and they have left with us their wealth of thought and deeds—the memories of brave lives bowing alone to death.

There is no death! An angel form walks o'er the earth with silent tread.
He bears our best loved things away, and then we call them dead.
He leaves our hearts all desolate, he plucks our fairest, sweetest flowers.
Transplanted into bliss they now adorn immortal bowers.
And ever near us, though unseen, the dear immortal spirits tread;
For all the boundless universe is life—there are no dead.

Respectfully submitted,

Chas. W. Heitzman, Chairman.

REPORT OF THE AUDITING COMMITTEE.

May 12, 1920.

To the Officers and Members of the Oklahoma State Medical Society,

Your Auditing Committee desires to report as follows: That the books of your Secretary and Treasurer at the close of business, April 30, 1920, shows as follows:

The Defense Fund has to its credit the sum of	\$1,475.02
Certificate of Deposit	2,500.00
Ten War Savings Stamps, par value, \$1,000.00, present value	880.00

TOTAL	\$4,855.02
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To the credit of the State Medical Association on open account the sum of	\$3,698.12
Also one four and one quarter per cent Second Liberty Loan Bond, par value	500.00

TOTAL	\$9,053.14
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We have also examined the books as to receipts and expenses and find them in accordance with the report submitted by the Secretary and Treasurer.

Respectfully submitted,

Chas. W. Heitzman, Chairman,
J. L. Austin,
L. C. Kuyrkendall.

Approved, May 18, 1920. C. A. Thompson, Secretary.

REPORT OF SECRETARY-TREASURER-EDITOR.

May 1, 1919, to April 30, 1920

To the House of Delegates, Council and Members of the Oklahoma State Medical Association:

Gentlemen: In conformity with our regulations I herewith submit this, my report of transactions of the office for the time indicated.

Membership: While we attained the highest mark of our history in 1919, this year has produced the unusual condition of 1920 membership far exceeding the high mark (December 1919) before April 30, 1920. Membership December, 1919, 1570. Membership April 30, 1920, 1638.

This situation, I believe, is attributable to the very close and continuous notification of county secretaries and members that they were about to lapse, and to the very energetic co-operation of most county secretaries over the State. We have had, too, the usual lack of co-operation, negligence and lack of system, which for years has prevailed in certain counties. This small minority of our members each year causes more trouble, error and expense, than all others combined. The cause, as a rule, may be properly charged to the county secretary who neglects the small routine matters of his office. There seems to be no remedy for the matter unless we adopt the system of adding an extra fee for dues paid by former members after a certain date.

It is a matter of congratulation to advise this body that the costs of medical society membership, including as it does, medical defense, and what is said to be a fairly balanced medical Journal, which of course, is just as good or bad as we make it, to Oklahoma physicians is among the lowest per capita in the United States. California with 2,500 members costs \$7.00; Missouri with 1,850 costs \$4.00; Nebraska with 1,150 collects \$4.00; Arkansas with 1,000 members collects \$2.50, and in

lieu of medical defense gives the members "sympathy"; Michigan, 2,950 members, dues \$3.50, is preparing to charge \$5.00; Iowa, 2,250 members, dues \$5.00. This average is about the rule throughout the country. The information is given here for the benefit of the mass of our members who have no opportunity for making comparison with others.

The greatest benefit of membership, however, is a total loss or non-existent in many counties. The maintenance of certain societies is a matter of form only, meetings are never held, and the incalculable benefit derived from association and exchange of views is not received. Members of these societies seem to have a vague idea that some mysterious force or power, some "organizer" is needed to stimulate them to activity. This situation exists in some large centers with a large number of physicians to draw from.

THE CHIROPRACTIC REFERENDUM.

As most of you understand, this vexations matter has been pending since the Act of the 1917 legislature became a law, which required them to undergo systematic study, proof of it, and qualification by examination, as other candidate physicians do. The Act has been rendered inert by their circulation of a petition referring the law to the people at the polls. All possible dilatory measures and legal obstructions have been disposed of, and the matter goes to vote at the next election.

It is admitted at once that most physicians care nothing whatever about this school of medicine, or what they and their duped patients do. In this attitude lies the only danger to the people of Oklahoma. The medical profession is unquestionably the only one informed and fitted to advise the people of the pitiable absurdity of their claims. It appears to your Secretary that unless we do take this trouble upon ourselves, and in active good faith, we must sooner or later be charged with selfishness and failure to perform the proper functions of good citizenship. The best medical minds of our Texan neighbors are now seriously considering this problem. Through lack of active cohesion, the medical profession of Kansas has already witnessed the spectacle of recognition of this cult as of scientific value. Arkansas, among its polyglot boards of medical examiners, I believe, is blessed with a complete board of these charlatans. This meeting is urged to take active steps to advise the people of Oklahoma of the matter at our next election.

Oklahoma has recently been signally recognized as of worth when the Medical Department of our University was placed in Class "A." This recognition was only possible through the continuous efforts of our best men after years of work and sacrifice. Past neglect on the part of our busy, or selfish, or misinformed, or indifferent physicians to meet the obligations incident to society and good citizenship, led Oklahoma to adopt some systems which should bring a blush to our faces. In one instance, apparently without the slightest knowledge on the part of physicians, the Optometry bill became law. When this identical law was proposed in Ohio it met overwhelming defeat after those informed had pointed out its deficiencies. Most of us care nothing of this matter either, but it is incumbent upon us to accept the responsibilities and combat, not only the chiropractic matter, but every other proposal which may injure our people or halt us in our advance upward. This is the last meeting we shall have to discuss this matter. Realizing fully that this discussion is probably not, or should not be incorporated in your Secretary's report, I feel as a consequence of many years of familiarity with the subject, that I would not be doing my full duty unless I did urge you to make this your very serious business in the next few months, after which other basic principles ignored and neglected, may be handled with greater ease. The incongruous spectacle of splendidly equipped, modern hospitals, a class "A" school and the criminal menace of chiropractic, recognized by law existing in your city, seems out of the question. One of us is very wrong; so it is up to us to advise the people on the matter.

THE MEDICAL DEFENSE FUND.

It will be seen by a glance at the financial report that this fund is in a healthy

state and that it will likely care for any reasonable demands, if it is properly husbanded.

Defense of members from this fund, it must once more be positively stated, cannot be undertaken unless the member is entitled to such without question. Waiving of its rules or making exceptions on account of sympathy or supposed influence, cannot be entertained without prompt ruin of the structure, which is slowly beginning to be of real worth to those who may need it. The high class of defense accorded our members by one of the ablest law firms in the United States is becoming more appreciable with time. Legal injustice to our members defended by this firm, is simply out of the question; dismissal of suits against our members, after plaintiff's attorney realizes what he is up against, is very common.

In discussing this fund, it is proper to state here that though organized in 1915, its purposes and rules are still very generally misunderstood. This results from the member becoming panicky over what, as a rule, is a very trivial affair. Employment of local attorneys often before the case is reported, is common, and of course, possibly productive of much harm. The tendency of some members to assume a defiant attitude in the case, and especially to boast that he is "defended" by the State Medical Association, is not uncommon. It is provocative of hostility on the part of attorneys and ex-patients; it can do the physician no good, but can harm the Medical Defense Fund and its attorneys. Reiteration, that the rules of this fund be read and remembered, cannot come too often.

Your attorneys have given us this statement of activities from May 1, 1919 to April 30, 1920:

Cases Disposed of Since May 1, 1919.

- No. 4753. Payne County. Defendant physician in U. S. Army when sued. Suit dismissed by plaintiff.
- No. 2701. Craig County. Suit tried. Verdict for defendant physician.
- No. 25465. Oklahoma County. Case tried. Verdict for defendant physician.
- No. 1772. Ottawa County. Case tried. Verdict for defendant physician.
- No. 580. Cotton and Comanche Counties. Case tried. Verdict for defendant physician.
- No. 581. Cotton and Comanche Counties. Case tried. Verdict for defendant physician.

Cases Pending.

- No. Canadian County.
- No. 5717, Tulsa County.
- No. 8952, Tulsa County.
- No. 3065, Tulsa County.
- No. 3473, Nowata County.
- No. 1968, Mayes County.
- No. 3986, Bryan County.
- No. Case dropped by reason of defendants lapsing membership.

Our attorneys, in part, make this statement:

"We desire to add that it would be well to impress upon the members of the Association that the members must positively realize that defense of their suits will not be undertaken unless every rule surrounding medical defense is complied with by the defendant physician asking defense. This matter of defense cannot be altered by sentiment or sympathy to fit any case, if the rules have not been fully and technically followed; no member or committee of your association has a legal right to make exceptions in any case as the rules now stand. The expenditure of The Medical Defense Fund cannot be consummated except in the regular manner as provided by your rules."

FINANCIAL STATEMENT.

Medical Defense Fund.

May 1, 1919, Balance on hand, in Bank	\$ 788.35	
Surrender of Time Deposit	500.00	
Interest, Time Deposits	60.00	
Oklahoma State Medical Association	1,500.00	
		\$2,848.35

Expenditures.

Attorneys' Fees	\$1,373.33	
Balance, Cash on hand, in Bank, May 1, 1920	1,475.02	
		\$2,848.35
May 1, 1920, Balance on hand in Bank	\$1,475.02	
Time Deposit, 4 per cent.	2,500.00	
War Savings Stamps	880.00	
TOTAL, Medical Defense Fund, May 1, 1920		\$4,855.02

OKLAHOMA STATE MEDICAL ASSOCIATION.

Receipts.

May 1, 1919, Balance on hand	\$3,398.74	
Advertising	4,093.09	
Interest, (Liberty Bond)	20.00	
County Secretaries	5,364.00	
		\$12,875.83

Expenditures.

Printing	\$4,852.79	
Reporting Meetings	159.53	
Councilors and Delegates, Expenses	314.85	
Attorney Fees and Legal Expense	10.75	
Secretary's Salary	1,158.33	
Stenographic and Clerical Work	823.76	
Refunds	13.80	
Treasurer's Bond	10.00	
Auditing Books	10.00	
Telegraph and Telephone	31.30	
Office Supplies and Miscellaneous Expense	52.50	
Postage	138.20	
Press Clippings	51.00	
Advertising	.90	
Xmas Present, W. M. Phares	50.00	
Transfer to Medical Defense Fund	1,500.00	
		\$ 9,177.71
Balance on hand in Bank		\$ 3,698.12
		\$12,875.83
May 1, 1920, Balance Cash on hand, in Bank	\$3,698.12	
Liberty Bond	500.00	
TOTAL, Oklahoma State Medical Association, May 1, 1920		\$ 4,198.12
TOTAL, Medical Defense Fund, May 1, 1920		\$ 4,855.02
TOTAL, ALL FUNDS, May 1, 1920		\$ 9,053.14

THE JOURNAL.

Your Journal, despite many unusual conditions affecting it, is also in a healthy state. Practically every advertiser is under contract for 1920, and has contracted to retain or increase his space for 1921, at an advance in rates of 25 per cent. This advance was necessary on account of advances in costs of everything. However, it will be seen that we have made more money than last year notwithstanding increased costs, and in the absence of proportionate increase in rates.

The failure of members to report changes of address is an item of considerable unnecessary expense which seems unavoidable.

It is our plan now to increase the size of the Journal beginning with the issue of January, 1921. This change calls for much work months in advance of the actual date. The alteration of plates alone is an item requiring several months notice to advertisers. This increase in size is due our growing membership and our very high class advertisers.

Support of our advertisers should not be forgotten by our members. Purchase of any article from a firm not supporting you, which is obtainable from your supporting advertiser, is simply inexcusable from either a business or ethical standpoint.

FINANCES.

The two funds of our Association have never been in such good condition. Despite mounting costs, it will be noted that our income has kept pace with and exceeded expectations. Cash books, duplicate deposit books, certificates of deposit and savings have been submitted to the Council's auditing committee, which body will make a direct report to you.

Respectfully submitted,

C. A. Thompson, Secy.-Treas.-Ed.

Approved by the House of Delegates, May 18, 1920.

C. A. Thompson, Sec'y-Treas.-Ed.

RECOMMENDATION OF COUNCIL TO HOUSE OF DELEGATES:

We recommend to the House of Delegates the creation of a permanent commission from our membership, charged with the following activities:

(1) The members of the Oklahoma State Medical Association should be urged to ever keep in mind the fact that their professional contact with wealthy individuals may afford legitimate opportunities to suggest gifts or bequests for the building and endowment of hospitals, sanatoria, laboratories or medical libraries; or for the purpose of carrying on scientific research.

(2) The giving of proper publicity to medical facts which might be of service and interest to the laity.

(3) The tabulation and filing of all available information concerning the various hospitals, sanatoria, laboratories and other medical institutions in the state in order that they may pass up on their professional merits at any time if occasion should arise. As for example, the contemplated endowment of any particular institution or the establishment or endowment of a laboratory in connection with such an institution.

(4) The members of the Commission shall be authorized to receive any funds that come undesignated and direct the expenditure of the same. When called upon they shall act in an advisory capacity in connection with the expenditure of funds designated for any of the purposes mentioned above and also in case of contemplated benefactions where information is desired.

Adopted May 20, 1920.

RECOMMENDATION OF COUNCIL TO HOUSE OF DELEGATES:

The Council recommends that the Oklahoma State Medical Association go on record on the following matter, and that a resolution be adopted reading:

"The membership of the Oklahoma State Medical Association, keenly appreciative of the formative, evolutionary struggles of every department of educational endeavor incident to the development of a new state; appreciative of its many imperfections, and alive to the just and growing pride of its citizenship, their resolution to keep pace with the modern advances of the times; takes this means to congratulate our citizens in every walk of life, on:

First—The establishment of hospital facilities for the Medical Department of our University, which though now only in an elementary state, has already achieved the award of recognition placing that Department in the coveted Class "A" among the brotherhood of medical schools.

Second—This Association now observes that proper State pride demands that steps be taken to establish a permanent system of orderly increase of the Department in exact ratio to the increase of all other departments of the University, in order that the position and class of the Department be never humiliated by retrograde decline. Experience conclusively teaches that in times of great national peril, the skilful aid of the competent American physician is most insistently demanded, that the demand has always been promptly heeded by a patriotic profession, more nearly prepared to render maximum service than any branch of the great army mobilized for offense or defense—like experience teaches that in order to adequately render such service it is necessary for a people to intensely train the medical servant in times of order and peace, that such training must not be on a niggardly, parsimonious scale, but on the scale demanded by the highest efficiency attainable. With these recognized fundamentals ever in view, the Oklahoma Medical Profession urges every citizen to co-operate in rendering aid by appropriation of needful funds in fixed and regular amount necessary to meet the demands of necessity."

Adopted May 20, 1920.

REPORT OF COMMITTEE ON MEDICAL EDUCATION.

May 20, 1920.

During the last fifteen years there have been remarkable and important advancements in medical education in the United States. Through the activities of the Council on Medical Education of the American Medical Association, the teaching of medicine has been systematized and improved so that the efficiency of the profession has been greatly increased and the people immeasurably benefitted.

In connection with the improvements in medical education, there have been many valuable developments in laboratory procedures, in instruments and apparatus of precision. These things are of the very greatest importance and should not be minimized. At the same time, your committee feels that there is a tendency in medical education to drift away from proven clinical methods, and, for that reason, attention is called to the desirability of a close and proper correlation of technical laboratory procedures and clinical procedures to the end that our teaching institutions and medical organizations may develop well-rounded clinicians.

Recently the Council on Medical Education of the American Medical Association has advanced the medical department of our State University to "A" Grade.

In the judgment of your committee, that action has brought to us not only honor but responsibilities. It should now be our purpose to not only do what is necessary to retain the coveted "A" Grade, but we should see to it that this department of the University has the necessary support for its proper development. Compared with other states, like Texas, like Iowa, like Michigan, like Virginia, for instance, Oklahoma has contributed but a mere pittance to the development of her School of Medicine. The school has a splendid new hospital, but a great medical building is sorely needed. At present, the first two years work is done at Norman

in inconvenient, and inadequate quarters. The class-work in Oklahoma City is done in a building but poorly adapted to the work, but which might be utilized to better advantage as a station for the out-patient service. In view of the above facts; in view of the opportunity ripe for the development of the school and service to the people of the State, your committee strongly recommends that this Association urge the next legislature of this State to make an appropriation of Five Hundred Thousand Dollars (\$500,000.00) for the purpose of constructing and equipping the necessary building or buildings for the Medical Department of the University on the fifteen acre tract upon which State University Hospital is located, and which has been designated by law as a home for the department.

A. L. Bush,

A. K. West,

Arthur W. White.

Committee.

Adopted May 20, 1920.

RESOLUTION.

To the President and House of Delegates of the Oklahoma State Medical Society:

We, representing the members of the Executive Committee of the Oklahoma Tuberculosis Association, realizing the great necessity of a better knowledge for preventing the spread of Tuberculosis, and also realizing that through the medium of the physicians of Oklahoma, much good can be accomplished by means of proper publicity and education, do hereby respectfully request the co-operation and assistance of the medical profession in the Anti-Tuberculosis campaign, and also request the endorsement of the House of Delegates of the Oklahoma State Medical Society for the work of the Oklahoma Tuberculosis Association.

Signed: Lee W. Cotton,

H. T. Price,

A. W. Roth.

Adopted May 20, 1920.

THE OKLAHOMA HOSPITAL ASSOCIATION

One of the events of the State Association was the meeting of the Oklahoma Hospital Association, May 19. It was opened with a luncheon at the Lee-Huckins Hotel. Following this were three minutes talks, short but to the point. The President, Dr. Fred S. Clinton, of Tulsa, presided. Dr. John W. Riley, of Oklahoma City, Dr. A. S. Risser, of Blackwell, Dr. John W. Duke, of Guthrie, Miss

Head Nurse of the University Hospital, Oklahoma City, and Dr. Chas. W. Heitzman, of Muskogee, indicated from their view point the more urgent needs of the hospitals of Oklahoma.

The sum of the various discussions were:

1. The creation of a standard.
2. An economical organization of workers, material, time and methods. So as not only to attain, but maintain this standard.
3. The creation of an increased demand for scientific medicine as against pseudo-scientific medicine.
4. A demonstration of the proposition.

Election of officers followed:

Fred S. Clinton, M. D., F. A. C. S., Oklahoma Hospital, Tulsa, Oklahoma, President.

J. A. Hatchett, M. D., El Reno Sanitarium, El Reno, Oklahoma, First Vice-President.

A. J. Risser, M. D., Blackwell Hospital, Blackwell, Oklahoma, Second Vice-President.

Mr. Paul H. Fesler, Supt. University Hospital, Oklahoma City, Executive Secretary.

J. H. White, M. D., Baptist Hospital, Muskogee, Oklahoma, Treasurer.

C. L. Reeder, M. D., Tulsa Hospital, Tulsa, Oklahoma, Delegate to American Hospital Association.

G. A. Boyle, M. D., Enid General Hospital, Enid, Oklahoma, Alternate.

The next meeting will take place in McAlester coincidentally with the State Association.

PERSONAL AND GENERAL NEWS

Dr. J. M. Hanna, Chickasha, was very ill in April.

Dr. J. B. Hix, Altus, remained in New Orleans after the A. M. A. meeting, attending the Polyclinic.

Dr. C. A. Dillon, Tulsa, is at Johns Hopkins University taking postgraduate work in medicine under Thayer.

Dr. T. J. Frizzell, Butler, has resigned as health officer of Custer County. **Dr. O. H. Parker**, Custer City, was appointed to fill the vacancy.

Dr. Israel Hill, for many years a practitioner of Eastern Cherokee County, was instantly killed at his home when the town of Peggs was swept away by a cyclone.

Dr. C. V. Rice, Muskogee, Chairman of the Section on Pediatrics and Obstetrics, left Oklahoma City after conclusion of the meeting for a visit to the clinics of Chicago.

Tulsa and Oklahoma City citizens are each making efforts to have a Public Health Service Hospital established in Oklahoma. It is thought that the recent visit of Surgeon General J. H. White, of the Service was for the purpose of investigating the feasibility of such establishment.

Dr. Hugh Scott, Surgeon (Res.), U. S. Public Health Service, Oklahoma City, held a meeting of Oklahoma War Risk Examiners on the evening of May 19th at the Lee-Huckins Hotel. Dr. Scott delivered a lengthy address and informally advised the examiners on various phases of their work. His address appears elsewhere in this issue.

Dr. J. H. White, Acting Assistant Surgeon General, U. S. Public Health Service, visited Oklahoma in May, calling at Oklahoma City and Muskogee. It is rumored that Dr. White came for the purpose of investigating the State's hospital capacity in connection with the possibility of establishing a Service Hospital in the State for the care of sick and injured discharged soldiers. He made no statement as to his conclusions.

Dr. J. C. Mahr, State Director, Venereal Disease Control, U. S. Public Health Service, took advantage of the Annual Meeting to hold an informal conference with the directors of his clinics over the State. The attendance was very good and the actual demonstrations of the work tended to uniformize the work of the various clinics. Immediately after the meeting Dr. Mahr left for Washington where he was called for a conference with Public Health Officials.

Dr. G. O. Hall, Bartlesville, is facing charges from the Washington County Medical Society before the State Board of Medical Examiners, in which he is charged with unprofessional conduct, in that he advertised that he had some special remedy or treatment for influenza, which had the approval of the U. S. Public Health Service or was sought by the service. Press dispatches show that Hall wrote the Surgeon General, Public Health Service, suggesting investigation of his "treatment." Dr. Blue advised him that they would be glad to receive from him any information on the subject, but that the matter ended there, that they had never received reply from Hall, had never invited him to come to Washington or that he had ever gone to Washington, so far as he was advised.

MISCELLANEOUS

ENDOCRINIC GLANDS.

Failure of the Endocrine Glands to functionate properly is known to be the cause of a good many disorders that give the practitioner a lot of worry. These cases must be studied carefully and the Endocrine gland preparations prescribed rationally. These preparations may be used singly or in combination. Of course it is useless to give any product that the patient does not need. The thing to do is decide what is lacking and specify the gland to supply the deficiency.

The glands used by the Armour Laboratory are selected with great care and are desiccated in vacuum ovens at a low temperature to insure the therapeutic active principle of that gland's being uninjured.

THAT'S SOMETHING ELSE AGAIN.

Rastus Ebenezer was telling a listening circle of chalk-eyed negroes what a wonder his new "gal" was. They followed him closely.
 "Oh, Lowdy, how dat gal do love!" he finally exclaimed.
 One listener, carried away by Rastus' eloquence, shouted:
 "Ah say she do!"
 At which, Ebenezer raised his razor and turned around.
 "What you-all say niggah?"
 The little negro, losing much of the ebony of his countenance, hastily gulped:
 "Ah say, do she?"

WHY THE BABY WAS BOUNCED.

Johnny—"Ma, little brother came from heaven, didn't he?"
 Mother—"Yes, dear."
 Johnny—"Well, say, Ma."
 Mother—"What is it, Johnny?"
 Johnny—"I don't blame the angels for throwing him out, do you?"

WRONG DIAGNOSIS.

"I know a man that has been married thirty years and he spends all his evenings at home."
 "That's what I call love."
 "Oh, no; it's paralysis."

COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

(The following articles produced by advertisers in this Journal have been accepted for inclusion with New and Non-Official Remedies by the Council on Pharmacy and Chemistry.)

NEW AND NONOFFICIAL REMEDIES.

During April the following articles of our advertisers have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies:

Abbott Laboratories: Anesthesin-Abbott, Aromatic Chlorazene Powder, Tablets Dichloramine-T-Abbott.

E. R. Squibb & Sons: Bacillus Bulgaricus-Squibb.

PROPAGANDA FOR REFORM.

Look Up Its Rating. The Council on Pharmacy and Chemistry was created because the complexity of modern medicine makes it a physical impossibility for physicians to know the scientific status of the many proprietary remedies which are on the market. As commercial agencies, such as Bradstreet and Dun, report on the commercial probity of individuals and firms, so the Council on Pharmacy and Chemistry reports on what might be called the scientific probity of proprietary and unofficial pharmaceutical products. The commercial agency issues, at no small expense to its customers, rating books; the Council on Pharmacy and Chemistry issues at a nominal price, "New and Nonofficial Remedies."¹ The commercial agency, for a substantial fee, will furnish reports on business concerns; the Council on Pharmacy and Chemistry, will, without any expense to the profession, furnish reports on proprietary products used for the relief or cure of human ailments (Jour. A. M. A., April 24, 1920, p. 1171).

Adulterated or Misbranded Mineral Water. Harris Spring Water, examined by the U. S. Bureau of Chemistry, was found to contain *B. coli* in small quantities, molds and liquefying organisms. Sprudel Concentrated Spring Water was found to contain bacilli of the colon group and also added salts not obtained from the West Baden Springs. American Apollinaris Mineral Water was found not to be Apollinaris Water. Robinson Spring Water was falsely claimed to be effective as a remedy for Bright's disease, diabetes, dropsy, cystitis, gout, rheumatism, indigestion, and kidney and bladder troubles. Ferro-Manganese Regent Water was falsely represented as a remedy for alcoholism, chronic rheumatism, dyspepsia, diabetes, Bright's disease, albuminuria, dropsy, sciatica and insomnia, and was not a natural spring water (Jour. A. M. A., April 24, 1920, p. 1182).

Alkalithia. Keasbey and Mattison Company's Effervescent Alkalithia was introduced at a time when it was believed that the administration of lithium salts served to remove uric acid from the system. The A. M. A. Chemical Laboratory reported that Alkalithia is an effervescent mixture which contains alkaline carbonates and bicarbonates together with caffeine, free tartaric acid and free citric acid and that, as taken, it represents caffeine in solution of alkali tartrate, citrate and bicarbonate containing free carbonic acid. The Council on Pharmacy and Chemistry declared Alkalithia inadmissible to New and Nonofficial Remedies because the claims made on the label and in the circular accompanying the trade package led the public, to its detriment, to depend on this preparation and because the therapeutic claims are unwarranted (Reports Council Pharm. and Chem., 1919, p. 65).

ROSTER OF MEMBERS OF COUNTY SOCIETIES, 1920

ADAIR COUNTY

Beard, D. A.	Haskell
Beard, J. H.	Beggs
Berry, F. O.	Westville
Chambers, D. P.	Stilwell
Collins, B. F.	Nowata
Evans, S. R.	Stilwell
Patton, J. A.	Stilwell
Rogers, F. W.	Watts
Robinson, J. A.	Westville
Sellers, R. L.	Westville
Williams, T. S.	Stilwell

ALFALFA COUNTY

Clark, Z. J.	Cherokee
Evans, M. T.	Aline
Huston, H. E.	Cherokee
Lancaster, L. T.	Cherokee
Lile, H. A.	Cherokee
Ludlum, E. C.	Carmen
McCord, M. M.	Halens
Myers, S. W.	Jed
Payne, W. H.	Ponca City
Rhodes, T. A.	Cherokee
Stout, Wm.	Cherokee
Tucker, J. M.	Carmen

ATOKA COUNTY

Briggs, T. H.	Atoka
Danmons, A. L.	Atoka
Fulton, J. S.	Atoka
Gardner, C. C.	Atoka
Pinson, M.	Atoka
Rollins, J. W.	Atoka
Ross, C. C.	Atoka

BECKHAM COUNTY

Denby, J. M.	Carter
Edmonds, R. L.	Foss
Goldberg, B. Cheston	Sayre
Kilpatrick, E. S.	Elk City
Lee, Ira A.	Erick
McComas, J. M.	Elk City
Palmer, Thos. D.	Elk City
Shadid, M.	Carter
Speed, H. K.	Sayer
Standifer, J. E.	Elk City
Steele, J. M.	Elk City
Stone, DeWitt	Sayer
Stough, D. F.	Geary
Tisdal, V. C.	Elk City
Warford, J. D.	Erick
Windle, O. N.	Sayer
Yarrough, J. E.	Erick

BLAINE COUNTY

Barnett, J. S.	Hitchcock
Browning, J. W.	Geary
Buchanan, M. W.	Watonga
Buchanan, F. R.	Canton
Doty, H. W.	Watonga
Gayman, S. E.	Okeene
Green, G. T.	Dri mright
Griffin, W. F.	Greenfield
Hamble, V. R.	Homestead
Holcombe, Geo. M.	Okeene
Krebs, H. M.	Eagle City
Leisure, J. B.	Watonga
Milligan, E. F.	Geary

Murdoch, L. H.	Okeene
Norris, J. H.	Okeene
Padberg, A. F.	Canton

BRYAN COUNTY

Allen, J. R.	Caddo
Armstrong, D.	Durant
Austin, W. G.	Mead
Austin, J. L.	Durant
Bates, J. A.	Kemp
Cain, P. L.	Albany
Cochran, R. L.	Caddo
Colwick, O. J.	Durant
Dale, C. D.	Caddo
Dickey, R. P.	Durant
Durham, J. H.	Durant
Fuston, H. B.	Bokchito
Gray, M.	Durant
Green, C. J.	Durant
Griffith, J. K.	Roswell, N. M.
Hagood, A. S.	Durant
Haynie, John A.	Durant
Jackman, F. M.	Mead
Kay, J. H.	Durant
Kellar, J. R.	Calera
McCorley, W. H.	Colbert
McCalib, D. C.	Utica
McKinney, Howard	Durant
Mullenix, C. S.	Roberta
Pope, H. P.	Wade
Rains, S. W.	Platter
Rappolee, H. E.	Madill
Reynolds, J. L.	Durant
Richardson, E. W.	Colbert
Ricks, H. C.	Caddo
Shuler, Jas. L.	Durant
Taliaferro, C. F.	Bennington
Toney, S. M.	Bokchito
Wann, C. E.	Albany
Wells, A. J.	Calera
Works, W. S.	Bokchito
Yeats, Wesley H.	Durant
Yeiser, C. C.	Colbert

CADDO COUNTY

Anderson, P. H.	Anadarko
Bird, Jesse	Cement
Blair, Samuel	Apache
Bryan, J. R.	Cogar
Brown, B. D.	Apache
Cambell, Geo. C.	Anadarko
Campbell, Sam C.	Anadarko
(M. C., U. S. Army)	
Cantrell, J. H.	Carnegie
Chamber, Claude S.	Anadarko
Clark, I. Ross.	Carnegie
Coker, Geo. B.	Cyril
Dinkler, F.	Fort Cobb
Dixon, Wallace L.	Cement
Downs, Edw. W.	Hinton
Edens, M. H.	Anadarko
Hawn, W. L.	Binger
Henke, J. J.	Hydro
Hobbs, A. F.	Hinton
Hume, Chas. R.	Anadarko
Inman, E. L.	Eakly
Johnston, R. E.	Bridgeport

CADDO COUNTY (Continued)

Kerley, W. W.	Anadarko
Lane, C. W.	Okongan, Wash.
McClure, P. L.	Fort Cobb
McMillan, C. B.	Gracemont
Myers, P. B.	Apache
Padberg, J. W.	Carnegie
Putnam, C. E.	Alfalfa
Putman, W. B.	Carnegie
Rector, R. D.	Anadarko
Rogers, W. F.	Carnegie
Sanders, P. L.	Bremerton, Wash.
Smith, C. A.	Hinton
Taylor, A. H.	Anadarko
Willard, A. J.	Cyril
Williams, R. W.	Anadarko
Williams, S. E.	Hydro

CANADIAN COUNTY

Aderhold, T. M.	El Reno
Brown, H. C.	El Reno
Catto, W. B.	El Reno
Clark, Fred H.	El Reno
Dever, H. A.	El Reno
Hatchett, J. A.	El Reno
Herod, P. F.	El Reno
Lane, Thos.	El Reno
Lynde, L. W.	Okarche
Muzzy, W. J.	El Reno
Pearce, Chas. M.	Calumet
Phelps, J. T.	El Reno
Richardson, D. B.	Union City
Riley, J. T.	El Reno
Ruhl, N. E.	Dexter, N. M.
Runkle, R. E.	Oklahoma City
Sanger, S. S.	Yukon
Taylor, G. W.	El Reno
Wolff, L. G.	Okarche

CARTER COUNTY

Alexander, M. S.	Healdton
Amerson, Geo. W.	Milo
Barker, E. R.	Healdton
Barnwell, J. T.	Graham
Best, J. C.	Ardmore
Boadway, F. W.	Ardmore
Booth, T. S.	Ardmore
Cameron, J. H.	Healdton
Cowles, A. G.	Ardmore
Cox, J. L.	Ardmore
De Porte, Seymour	Ardmore
Denham, T. W.	Ardmore
Dowdy, Thos. W.	New Wilson
Earley, R. O.	Ardmore
Easterwood, A. Y.	Ardmore
Fox, U. R.	Ardmore
Gillespie, L. D.	Berwyn
Goodwin, G. E.	Ardmore
Hardy, Walter	Ardmore
Hathaway, W. G.	Pooleville
Henry, Robt. H.	Ardmore
Higgins, H. A.	Springer
Johnson, Walter M.	Ardmore
McNees, J. C.	Ardmore
McRae, J. P.	Coalgate
Merriott, W. A.	Brock
Sain, W. C.	Ardmore
Shelton, J. W.	Ardmore
Starnes, W. M.	Ardmore
Taylor, Dow	Woodford
Von Keller, F. P.	Ardmore

Ware, T. H.	New Wilson
Wilson, S. W.	Ardmore

CHEROKEE COUNTY

Allison, T. P.	Sand Springs
Allison, J. S.	Tahlequah
Baird, A. A.	Park Hill
Blake, W. G.	Tahlequah
Bond, Thomas J.	Tahlequah
Brown, W. L.	Hulbert
Duckworth, John F.	Fort Crook, Neb.
Johnson, J. J.	Moody's
McCurry, L. E.	Tahlequah
Medearis, P. H.	Tahlequah
Mitchell, J. H.	Hulbert
Peterson, C. A.	Tahlequah
Thompson, Joseph M.	Tahlequah

CHOCTAW COUNTY

Askew, E. R.	Hugo
Chambliss, F. L.	Hugo
Clark, J. L.	Hugo
Gee, J. F.	Irvine
Gee, R. L.	Hugo
Hale, C. H.	Boswell
Hampton, K. P.	Soper
Harris, G. E.	Hugo
John, W. N.	Hugo
Johnson, E. A.	Hugo
Marsh, G. O.	Ft. Towson
McPherson, W. G.	Ft. Towson
McPherson, V. L.	Boswell
Moore, J. D.	Hugo
Sanders, R. W.	Soper
Shull, R. J.	Hugo
Steward, C. A.	Grant
Swearington, C. H.	Hugo
White, H. H.	Hugo
Wolfe, Reed	Hugo
Yeargan, W. M.	Soper

CLEVELAND COUNTY

Bobo, C. S.	Norman
Boyd, T. M.	Norman
Clifton, G. M.	Norman
Day, J. L.	Norman
Ellison, Gayfree	Norman
Gable, J. J.	Norman
Graham, S. H.	Norman
Griffin, D. W.	Norman
Lambert, J. P.	Lexington
McLaughlin, J. R.	Norman
Lowther, D. R.	Norman
McClure, J. B.	Norman
Thacker, Robert E.	Lexington
Williams, J. M.	Norman

COAL COUNTY

Bates, Frank	Kemp
Blount, W. T.	Tupelo
Brown, W. E.	Lehigh
Cates, A.	Tupelo
Clark, J. B.	Ennis, Texas
Cody, R. D.	Centrahoma
Conner, L. A.	Coalgate
Goben, H. G.	Lehigh
Hipes, J. J.	Coalgate
Logan, W. A.	Lehigh
Rutherford, H. T.	Clarita

COAL COUNTY (Continued)

Rushing, F. E.	Coalgate
Sadler, F. E.	Coalgate
Wallace, W. B.	Coalgate

COMANCHE COUNTY

Angus, H. A.	Lawton
Antony, Joseph T.	Lawton
Baird, C. W.	Lawton
Barber, J. S.	Lawton
Brashear, Jackson	Lawton
Chapman, John J.	Lawton
Dice, R. J.	Lawton
Dunlap, P. G.	Lawton
Dunlap, E. B.	Lawton
Gipson, Thomas J.	Lawton
Goeck, E. S.	Lawton
Gooch, L. T.	Lawton
Hammond, F. W.	Lawton
Hitch, W. N.	Sterling
Hood, J. R.	Indianapolis
Hughes, C. P.	Lawton
Joyce, Chas. W.	Fletcher
Kerr, G. E.	Chattanooga
Knee, Loren C.	Lawton
Lutner, T. R.	Lawton
Malcolm, J. W.	Lawton
Martin, Chesley M.	Elgin
Mason, W. J.	Lawton
Mead, W. B.	Lawton
Milne, L. A.	Ft. Sill
Mitchell, E. Brent	Lawton
Myers, David A.	Lawton
Perisho, J. Allen	CACHE
Rosenberger, F. E.	Wichita Falls, Texas
Shoemaker, Ferdinand	Emporia, Kansas
Stewart, A. H.	Lawton

COTTON COUNTY

Alexander, C. W.	Temple
Foster, Lloyd B.	Walters
Halsted, A. B.	Temple
Hancock, A. R.	Walters
Hester, J. B.	Randlett
House, C. F.	Hasting
Janis, G. M.	Walters
Kernodle, Jas. J. D.	Devol
Sanders, M. J.	Devol

CRAIG COUNTY

Adams, F. M.	Vinita
Bagby, Louis	Vinita
Bell, C. P.	Welch
Bradshaw, J. O.	Welch
Campbell, W. M.	Vinita
Cornwell, N. L.	Bluejacket
Craig, J. W.	Vinita
Hayes, P. L.	Vinita
Herron, A. W.	Vinita
Hughson, F. L.	Vinita
Johnson, Lee	Vinita
Marks, W. R.	Vinita
Mitchell, Robert L.	Vinita
Morgan, E. A.	Ossawatimie, Kansas
Neer, C. S.	Vinita
Pickens, E. A.	Grove
Staples, J. H. L.	Bluejacket
Roberts, D. C.	Ketchum
Robinson, T. L.	Bluejacket
Stough, D. B.	Vinita
Walker, Chas. F.	Grove

CREEK COUNTY

Avery, Amos	Sapulpa
Blaehly, C. D.	Drumright
Blaehly, L. S.	Drumright
Bone, J. Wade	Sapulpa
Coffield, A. W.	Drumright
Conger, D. W.	Mounds
Coppedge, O. S.	Depew
Croston, G. C.	Sapulpa
Fry, Melvin	Drumright
Garland, H. S.	Sapulpa
Gregoir, J. A.	Drumright
Haas, H. R.	Sapulpa
Howard, W. H.	Drumright
Humphrys, D. W.	Oilton
Hutchinson, W. O.	Drumright
Izgur, Leon	Randalls Island, N. Y.
Jones, Ellis	Kiefer
Kahle, C. E.	Drumright
King, E. W.	Bristow
Longmire, W. P.	Sapulpa
Mattenlee, J. M.	Sapulpa
Neal, W. J.	Drumright
Powell, G. N.	Drumright
Reese, C. B.	Sapulpa
Reynolds, S. W.	Drumright
Reynolds, E. W.	Bristow
Sanger, Paul	Drumright
Schrader, C. T.	Bristow
Schwab, B. C.	Sapulpa
Smith, L. L.	Sapulpa
Stafford, G. A.	Kiefer
Starr, O. W.	Drumright
Stevens, J. C.	Drumright
Sweeney, Roy M.	Sapulpa
Taylor, Z. G.	Mounds
Wells, John M.	Bristow
Wetzel, Geo. H.	Sapulpa
Williams, J. C.	Bristow

CUSTER COUNTY

Boyd, T. A.	Weatherford
Butler, Timothy J.	Tucson, Arizona
Clohesy, T. T.	Clinton
Comer, M. C.	Clinton
Frizzell, J. T.	Butler
Gordon, J. M.	Weatherford
Gore, V. M.	Clinton
Gossom, K. D.	Custer
Jeter, J. R.	Clinton
Lamb, Ellis	Clinton
McBurney, C. H.	Clinton
McCullah, R.	Arapaho
Murray, P. J.	Thomas
Omer, W. J.	Thomas
Parker, O. H.	Custer
Parker, W. W.	Thomas
Rogers, McLain	Clinton
Williams, J. J.	Weatherford

DEWEY COUNTY

Allan, Frank W.	Leedy
Seba, W. E.	Leedy

GARFIELD COUNTY

Aitken, W. A.	Enid
Anderson, A.	Kremlin
Baker, J. W.	Enid
Bitting, B. T.	Enid
Boyle, G. A.	Enid
Cotton, Lee W.	Enid
Davis, Frank P.	Enid
Field, Julian	Enid
Francisco, J. W.	Enid

GARFIELD COUNTY (Continued)

Francisco, Glen	Enid
Hays, J. H.	Enid
Hinson, T. B.	Enid
Huddleson, J. W.	Enid
Hudson, F. A.	Enid
Jones, E. S.	Hunter
Kelso, M. A.	Enid
Kendal, W. L.	Enid
Lamerton, W. E.	Enid
Looper, S. A.	Houston, Texas
Mahoney, J. E.	Enid
Mayberry, S. N.	Enid
McEvoy, S. H.	Enid
McInnis, A. L.	Enid
McKee, E. N.	Enid
Newell, W. B.	Enid
Piper, A. S.	Enid
Potter, J. T.	Enid
Rhodes, Wm. H.	Enid
Smythe, P. A.	Enid
Stone, Roy D.	Covington
Swank, J. R.	Enid
Vandiver, H. T.	Enid
Wilkins, A. E.	Covington
Wolff, E. J.	Wankomis

GARVIN COUNTY

Branum, T. C.	Pauls Valley
Callaway, John R.	Pauls Valley
Callaway, James R.	Pauls Valley
McDaniels, W. B.	Maysville
Gaddy, Lewis	Stratford
Greening, W. P.	Pauls Valley
Gross, T. F.	Lindsay
Johnson, G. L.	Pauls Valley
Keever, A. P.	Lindsay
Lain, E. H.	Paoli
Lindsey, N. H.	Pauls Valley
Lindsey, J. K.	Elmore City
Markham, H. P.	Pauls Valley
Matheny, J. C.	Lindsay
Mitchell, C. P.	Lindsay
Moore, J. W.	Maysville
Morgan, J. B.	Foster
Morton, E. L.	Hennepin
Norvell, E. E.	Wynnewood
Pratt, C. M.	Pauls Valley
Ralston, B. W.	Lindsay
Robinson, A. J.	Pauls Valley
Robberson, M. E.	Wynnewood
Settles, W. E.	Wynnewood
Shannon, J. B.	Pauls Valley
Spangler, A. S.	Pauls Valley
Stephens, J. W.	Maysville
Sullivan, C. L.	Elmore City
Sullivan, E.	Oklahoma City
Tucker, J. W.	Lindsay
Wilson, H. P.	Wynnewood

GRADY COUNTY

Ambrister, J. C.	Chickasha
Antle, H. C.	Chickasha
Barry, W. R.	Bradley
Bates, C. W.	Bailey
Baze, R. J.	Oklahoma City
Bledsoe, Martha	Chickasha
Boone, U. C.	Chickasha
Bonnell, W. L.	Chickasha
Cook, W. H.	Chickasha
Cox, C. P.	Ninnekah
Dawson, E. L.	Chickasha

Downey, D. S.	Chickasha
Emanuel, L. E.	Chickasha
Fuller, F.	Amber
Gains, F. M.	Verden
Gerard, G. R.	Ninnekah
Hampton, J. P.	Rush Springs
Hanna, J. M.	Alex
Hume, R. R.	Minco
Leeds, A. B.	Chickasha
Livermore, W. H.	Chickasha
Marrs, S. O.	Chickasha
Masters, H. C.	Minco
Rencgar, J. F.	Tuttle
Shaw, R. M.	Alex
Smith, C. E.	Chickasha
Stinson, J. E.	Chickasha
White, A. C.	Chickasha
Winborn, L. H.	Tuttle

GRANT COUNTY

Hardy, I. V.	Medford
Lockwood, C. H.	Medford
Martin, J. F.	Deer Creek
Saffold, B. W.	Gibbon

GREER COUNTY

Austin, C. W.	Brinkman
Border, G. F.	Mangum
Cherry, G. P.	Mangum
Dodson, W. O.	Willow
Finley, H. W.	Vinson
McGregor, F. H.	Mangum
Hollis, J. B.	Mangum
Jeter, O. R.	Brinkman
Lansden, J. B.	Mangum
Mabry, E. W.	Mangum
Meridith, J. S.	Mangum
Neel, Ney	Mangum
Nunnery, T. J.	Granite
Poer, E. M.	Mangum
Wiley, G. W.	Granite
Willis, T. L.	Granite

HARMON COUNTY

Beach, D. B.	Dodsonville, Texas
Collins, C. E.	Hollis
Hopkins, S. W.	Hollis
Husband, W. G.	Hollis
Hyde, X. R.	Dodsonville, Texas
Jones, J. E.	Hollis
McFaddin, J. S.	Hollis
Patrick, J. B.	Vinson
Pendergraft, Roy L.	Hollis
Pendergraft, W. C.	Hollis
Ray, W. T.	Gould
Scarborough, J. W.	Gould
Street, O. J.	Lewis

HASKELL COUNTY

Chambers, Albert M.	Weleetka
Davis, John	Stigler
Fannin, F. A.	Stigler
Hill, A. T.	Stigler
Johnson, E.	Kinta
Jones, O. H.	Keota
Mayfield, T. B.	Norman
McDonald, J. W.	Hoyt
Mitchell, S. E.	Stigler
Terrell, R. F.	Stigler
Turner, T. B.	Stigler
Matre, M. Van	Keota
Waltrip, J. R.	Kinta

HUGHES COUNTY

Felix, T. B.	Holdenville
Hicks, F. B.	Wetumka
Hicks, C. A.	Wetumka
Lowe, J. W.	Holdenville
McCary, D. Y.	Holdenville
Mitchell, P. E.	Wetumka
Scott, Hugh	Oklahoma City

JACKSON COUNTY

Abernethy, E. A.	Altus
Brown, R. F.	Headrick
Buck, D. C.	Eldorado
Caviness, J. J.	Oklahoma City
Crow, E. S.	Olustee
Fox, R. H.	Altus
Hix, J. B.	Altus
Hyde, R. H.	Eldorado
Lowe, J. T.	Blair
Miles, E. P.	Hobart
McConnell, L. H.	Altus
McCray, J. W.	Martha
Rudell, W. P.	Altus
Ruthland, W. H.	Altus
Sanderson, W. E.	Altus
Spears, G. C.	Altus
Strother, S. P.	Oklahoma City
Stults, J. S.	Olustee

JEFFERSON COUNTY

Ashinhurst, T. E.	Waurika
Browning, W. M.	Waurika
Collins, D. B.	Waurika
Cranfill, A. G.	Grady
Derr, J. I.	Waurika
Dossey, W. J.	Ringling
Edwards, F. M.	Ringling
Lewis, A. R.	Oklahoma City
Maupin, C. M.	Waurika
Stephens, J. M.	Hastings
Sutherland, L. B.	Ringling
Wade, L. L.	Ryan

JOHNSTON COUNTY

Clark, J. J.	Tishomingo
Cottrell, W. P.	Milburn
Clark, Guy	Milburn
Crocker, A. S.	Oklahoma City
Kniseley, H. B.	Tishomingo
Looney, J. T.	Tishomingo
Stobaugh, F. B.	Manusville
White, F. A.	Wapanucka

KAY COUNTY

Arendell, C. W.	Ponca City
Barker, C. J.	Kaw City
Berry, Leo A.	Ponca City
Bishop, H. H.	Dilworth
Brown, Howard S.	Ponca City
Buellesfeld, M. E.	Blackwell
Edwards, P. A.	Nardin
Gearhart, A. P.	Blackwell
Gobson, Howard B.	Ponca City
Gowey, H. O.	Newkirk
Havens, A. R.	Blackwell
Hawkins, J. C.	Blackwell
Hazen, A. L.	Newkirk
Holland, A. W.	Newkirk
Johnson, Wm.	Beckham
Jones, J. A.	Tonkawa
Leslie, W. M.	Blackwell
Lively, M. M.	Blackwell
Lockwood, W. A.	Ponca City
Lowery, A.	Blackwell

Miller, D. W.	Blackwell
McClerkin, Wm. N.	Ponca City
McCullough, S. S.	Braman
McElroy, Thomas	Ponca City
Nieman, G. H.	Ponca City
Northcutt, C. E.	Ponca City
Nuckols, A. S.	Ponca City
Orvis, E. J.	Blackwell
Richards, C. W.	Newkirk
Risser, A. S.	Blackwell
Robinson, W. A. T.	Ponca City
Schenck, H. C.	Newkirk
Syfert, A. G.	Blackwell
Waggoner, E. E.	Tonkawa
Walker, I. D.	Blackwell
Werner, John W.	Newkirk
Wood, V. A.	Blackwell

KIOWA COUNTY

Barkley, A.	Hobart
Bonham, J. M.	Hobart
Bradley, C. E.	Mountain View
Bryce, J. R.	Snyder
Dodson, A. T.	Hobart
Hamilton, J. T.	Snyder
Hathaway, A. H.	Mountain View
Hollis, J. E.	New Orleans, La.
Land, J. A.	Lone Wolf
Leverton, W. R.	Hobart
Mellwain, W. M.	Lone Wolf
Martin, F. F.	Roosevelt
Miller, W. W.	Gotebo
Muller, J. A.	Snyder
Seibert, Paul	Cooperton
Stewart, G. W.	Hobart
Watkins, B. H.	Gotebo

KINGFISHER COUNTY

Cavett, E. R.	Loyal
Fisk, Chas. W.	Kingfisher
Gose, C. O.	Hennessy
Lindle, E. J.	Omega
Meredith, A. O.	Kingfisher
Overstreet, J. A.	Kingfisher
Pendleton, J. W.	Kingfisher
Rector, Newton	Hennessy
Scott, Frank	Kingfisher
Townsend, B. F.	Hennessy
Vincent, Ira H.	Dover
Warrick, J. D.	Cashion

LATIMER COUNTY

Dalby, H. L.	Wilburton
Evans, E. L.	Wilburton
Hamilton, E. B.	Wilburton
Henry, T. L.	Wilburton
Kilpatrick, Garnett A.	Main, Wilburton
McArthur, J. F.	Wilburton
Rich, R. L.	Red Oak
Talley, I. C.	Red Oak

LEFLORE COUNTY

Beckett, J. B.	Spiro
Bevill, S. D.	Heavener
Billingsley, C. B.	Cowlington
Booth, G. R.	Le Flore
Campbell, E. A.	Heavener
Collins, E. L.	Panama
Conn, L. D.	Cowlington
Harbour, J. T.	Cowlington
Dean, S. C.	Howe
Duff, W. M.	Braden

LEFLORE COUNTY (Continued)

Fair, E. N.	Hogden
Fowler, J. D.	Heavener
Gilliam, W. C.	Spiro
Hardy, Harrell	Poteau
Hardy, J. J.	Poteau
Hartshorne, W. O.	Spiro
Hunt, A. G.	Howe
McClain, W. Z.	Heavener
Mahar, C. H.	Spiro
Minor, R. W.	Williams
Mixon, A. M.	Spiro
Morrison, G. A.	Poteau
Plumlee, John L.	Poteau
Plumlee, M.	Poteau
Scott, E. E.	Bokoshe
Shepard, R. M.	Talihina
Shippey, E. E.	Wister
Wear, J. B.	Poteau
Winter, John D.	Monroe
Woodson, B. D.	Poteau
Wright, R. L.	Talihina

LINCOLN COUNTY

Adams, J. W.	Chandler
Baird, W. D.	Stroud
Bisbee, W. G.	Chandler
Erwin, P. F.	Wellston
Erwin, F. B.	Wellston
Glenn, J. O.	Stroud
Hancock, J. M.	Chandler
Hannah, R. H.	Prague
Jansing, J. H.	Tryon
Marshall, A. M.	Chandler
Morgan, C. M.	Chandler
Murray, Levi	Wellston
Nickel, U. E.	Davenport
Norwood, F. H.	Prague
Pendergraft, W. A.	Carney
William, H. M.	Wellston

LOGAN COUNTY

Barker, Pauline	Guthrie
Barker, E. O.	Guthrie
Barker, C. B.	Guthrie
Barnes, F. M.	Marshall
Cotteral, C. F.	Guthrie
Duke, J. W.	Guthrie
Hahn, L. A.	Guthrie
Hill, C. B.	Guthrie
Houseworth, J. L.	Guthrie
Lovelady, Benton	Oklahoma City
Melvin, J. L.	Guthrie
Petty, C. S.	Guthrie
Pollock, John R.	Guthrie
Ritzhaupt, L. H.	Guthrie
Souter, J. E.	Guthrie
Stevens, D.	Guthrie
Tedrowe, C. W.	Logan
Trigg, F. E.	Lovel
West, A. A.	Guthrie

LOVE COUNTY

Autry, D.	Marietta
Jackson, T. J.	Marsden
Martin, A. E.	Marietta

MAJOR COUNTY

Anderson, J. V.	Fairview
Johnson, B. F.	Fairview
Specht, Elsie L.	Fairview
Taylor, W. J.	Fairview

MARSHALL COUNTY

Baker, J. F.	Isom Springs
Ballard, A. E.	Madill
Ballard, C. B.	Kingston
Belt, M. D.	Woodville
Blaylock, T. A.	Madill
Collins, J. A.	Willis
Davis, W. L.	Kingston
Ford, W. H.	Kingston
Gaston, J. I.	Madill
Haynie, W. D.	Powell
Holland, J. L.	Madill
Lewis, E. F.	Kingston
Logan, J. H.	Lebanon
Reid, J. E.	Madill
Robinson, P. F.	Madill
Welborn, O. E.	Kingston
Winston, S. P.	McMillan

MAYES COUNTY

Adams, J. L.	Pryor
Bryant, W. C.	Choteau
Hollingsworth, J. E.	Strang
Mitchell, J. L.	Pryor
Morrow, B. L.	Salina
Pierce, E. L.	Locust Grove
Puckett, Carl	Pryor
Rogers, Ivadell	Pryor
Smith, F. W.	Pryor
Whitaker, W. J.	Pryor
White, L. C.	Adair

MURRAY COUNTY

Adams, J. A.	Sulphur
Bailey, H. C.	Sulphur
Brown, A. P.	Davis
Dunn, R.	Davis
Luster, J. C.	Davis
Ponders, A. V.	Sulphur
Powell, W. H.	Sulphur
Salter, H. H.	Sulphur
Simmons, J. H.	Sulphur
Slover, J. T.	Sulphur
Slover, G. W.	Sulphur
Smith, W. A.	Davis

MUSKOGEE COUNTY

Ballantine, H. T.	Muskogee
Berry, W. D.	Muskogee
Blakemore, J. L.	Muskogee
Brown, Benj. H.	Muskogee
Carlson, T. C.	Hoffman
Chattergee, S. N.	Muskogee
De Groot, C. E.	Muskogee
Dill, Emmitt	Boynton
Donnell, R. N.	Muskogee
Dwight, K. M.	Muskogee
Earnest, A. N.	Muskogee
Everly, A. W.	Muskogee
Ewing, F. B.	Muskogee
Farris, R. C.	Porum
Fite, Wm. P.	Muskogee
Fite, F. B.	Muskogee
Floyd, W. E.	Muskogee
Fryer, S. J.	Muskogee
Fullenwider, C. M.	Muskogee
Graves, J. R.	Boynton
Harris, J. G.	Muskogee
Harris, A. W.	Muskogee
Hartgraves, Thos. A.	Muskogee
Hawkins, R. H.	Braggs

MUSKOGEE COUNTY (Continued)

Hedrick, Ellen	Muskogee
Heitzman, Chas. W.	Muskogee
Hill, C. L.	Haskell
Holcombe, R. N.	Muskogee
Hollingsworth, J. I.	Muskogee
Hoss, Sessler H.	Muskogee
Howell, O. E.	Oktaha
Joblin, W. R.	Porter
Jones, R. E.	Braggs
Keith, Emma S.	Muskogee
King, F. S.	Muskogee
Klass, O. C.	Muskogee
Lee, John E.	Haskell
Lovell, A. J.	Dalhart, Texas
Mitchell, P. S.	Yale
Morrow, M.	Muskogee
Nesbitt, P. P.	Muskogee
Nichols, J. T.	Muskogee
Noble, J. G.	Muskogee
Oldham, I. B.	Muskogee
Pearce, W. E.	Byron
Plunkett, J. H.	Porum
Rafter, J. G.	Muskogee
Reynolds, John	Muskogee
Rice, C. V.	Muskogee
Rogers, H. C.	Muskogee
Sanford, J. Hoy	Muskogee
Scott, H. A.	Muskogee
Sosice, J. W.	Gore
Squibbs, H. W.	Quapaw
Stocks, A. L.	Muskogee
Thompson, M. K.	Muskogee
Thompson, C. A.	Muskogee
Tilly, W. T.	Muskogee
Vittum, J. S.	Muskogee
Wallis, G. C.	Fort Gibson
Walton, F. L.	Muskogee
Warterfield, F. E.	Muskogee
Warmack, J. C.	Muskogee
White, J. Hutchings	Muskogee
Wilkiemeyer, Fred J.	Muskogee

McINTOSH COUNTY

Bennett, Dyton	Texanna
Graves, G. W.	Hitchita
Jacobs, L. I.	Vivian
Lee, N. P.	Checotah
Little, D. E.	Eufaula
Melinder, R. G.	Eufaula
McColloch, J. H.	Checotah
Minor, S. W.	Checotah
Pope, A. J.	Hanna
Rice, J. F.	Eufaula
Rushing, B. F.	Hanna
Shaunty, J. N.	Eufaula
Smith, F. L.	Fame
Tolleson, W. A.	Eufaula
Vance, B. J.	Checotah
Watkins, J. C.	Checotah
West, G. W.	Eufaula

McCLAIN COUNTY

Cochran, J. E.	Byars
Dawson, O. O.	Wayne
Kolb, I. N.	Dibble
McCurdy, W. C.	Purcell
Nunnery, E. E.	Washington
Slover, B. W.	Blanchard
Smith, C. B.	Washington
West, J. W.	Purcell

McCURTAIN COUNTY

Baylis, Eugene	Idabel
Chastain, J. B.	Broken Bow
Clarkson, A. W.	Valliant
Goodwin, E.	Broken Bow
Graydon, A. S.	Idabel
Hammond, O. O.	Okmulgee
Hensley, H.	Golden
Hill, L. H.	Idabel
Huckaby, C. R.	Valliant
McDonald, C. T.	Broken Bow
Moreland, J. T.	Idabel
Moreland, B. F.	Shultz
Moseley, F.	Valliant
Sherrill, R. H.	Broken Bow
Taylor, W. D.	Haworth
Thompson, J. M.	Broken Bow
Williams, R. D.	Idabel
Wisdom, W. E.	Broken Bow
Woods, N. D.	Millerton

NOBLE COUNTY

Brafford, S. F.	Billings
Cavitt, Robt. A.	Morrison
Coldiron, D. F.	Perry
Dorough, John L.	Perry
Gains, S. H.	Lucien
Kuntz, Lambertus	Perry
Owen, B. A.	Perry
Renfrow, T. F.	Billings

NOWATA COUNTY

Allen, R. I.	Nowata
Brookshire, J. E.	Nowata
Collins, E. F.	Nowata
Collins, J. R.	Nowata
Dolson, F. R.	Nowata
Lawson, D. M.	Nowata
Nairn, Wm.	Alluwee
Roberts, S. P.	Alluwee
Scott, M. B.	Delaware
Strother, L. T.	Nowata
Sudderth, J. P.	Nowata
Thomas, J. G.	Alluwee
Waters, G. A.	Lenapah
Wilkinson, J. T.	Delaware

OKFUSKEE COUNTY

Bloss, C. M.	Okemah
Bombarger, C. C.	Paden
Carroll, W. B.	Okemah
Davis, W. H.	Castle
Dovell, J. C.	Paden
Griffith, W. C.	Weleetka
Hillsmeyer, F. E.	Weleetka
Jenkins, W. P.	Bearden
Kennedy, J. A.	Okemah
Keyes, R.	Okemah
Lucas, A. C.	Castle
May, H. A.	Okemah
Nye, L. A.	Okemah
Patterson, G. W.	Wetumka
Pemberton, J. M.	Okemah
Preston, J. R.	Weleetka
Preston, T. R.	Weleetka
Rollins, J. S.	Paden
Stephenson, A. J.	Okemah
Watts, B.	Okemah

OKLAHOMA COUNTY

Alford, J. M.	Oklahoma City	Love, R. S.	Oklahoma City
Allen, E. P.	Oklahoma City	Lowery, Dick	Oklahoma City
Andrews, Leila E.	Oklahoma City	Lowry, Tom	Oklahoma City
Balyeat, Ray M.	Oklahoma City	Mahr, J. C.	Oklahoma City
Barker, C. E.	Oklahoma City	Martin, J. F.	Oklahoma City
Bailey, F. M.	Oklahoma City	Mraz, J. Z.	Oklahoma City
Bailey, William H.	Oklahoma City	Maxwell, J. H.	Oklahoma City
Baird, A. B.	Oklahoma City	McBride, Earl	Oklahoma City
Binkley, J. C.	Oklahoma City	McDonald, J. C.	Oklahoma City
Blesh, A. L.	Oklahoma City	McHenry, D. D.	Oklahoma City
Bradley, H. C.	Oklahoma City	McNair, Perry	Oklahoma City
Bolnd, Rex	Oklahoma City	Messenbaugh, J. F.	Oklahoma City
Buchanan, T. A.	Oklahoma City	Miles, W. H.	Oklahoma City
Buxton, L. Haynes	Oklahoma City	Moorman, L. J.	Oklahoma City
Campbell, James A.	Columbia, Alabama	Murdoch, R. L.	Oklahoma City
Chase, A. B.	Oklahoma City	Newman, M. H.	Oklahoma City
Christian, Paul	Oklahoma City	Newton, L. A.	Oklahoma City
Cloudman, H. H.	Oklahoma City	Nowlin, N. R.	Oklahoma City
Clymer, Cyril E.	Oklahoma City	Paulus, D. D.	Oklahoma City
Coley, A. J.	Oklahoma City	Phelan, J. R.	Oklahoma City
Crawford, P. H.	Oklahoma City	Phelps, C. R.	Oklahoma City
Cummings, W. C.	Oklahoma City	Pine, J. S.	Oklahoma City
Cunningham, S. R.	Oklahoma City	Postelle, J. M.	Oklahoma City
Davenport, A. E.	Oklahoma City	Reek, John A.	Oklahoma City
Davis, Edw. F.	Oklahoma City	Reed, Horace	Oklahoma City
Davis, S. C.	Oklahoma City	Reily, Lea A.	Oklahoma City
Day, C. R.	Oklahoma City	Riley, John	Oklahoma City
De Mand, F. A.	Oklahoma City	Roddy, John A.	Oklahoma City
Dersch, Walter H.	Oklahoma City	Rolater, J. B.	Oklahoma City
Dickens, W. E.	Oklahoma City	Roland, M. M.	Oklahoma City
Dixon, W. E.	Oklahoma City	Rucks, W. W.	Oklahoma City
Earnheart, E. G.	Oklahoma City	Sackett, L. M.	Oklahoma City
Edwards, E. F.	Pasadena, Cal.	Sands, A. J.	Oklahoma City
Edwards, R. T.	Oklahoma City	Sanger, Winnie M.	Oklahoma City
Ferguson, E. S.	Oklahoma City	Sanger, F. M.	Oklahoma City
Fishman, C. J.	Oklahoma City	Salmon, W. T.	Oklahoma City
Flesher, Thos. H.	Edmond	Smith, M.	Oklahoma City
Fowler, W. A.	Oklahoma City	Solomon, A. L.	Oklahoma City
Frierson, S. E.	Oklahoma City	Stone, S. N.	Edmond
Fulton, Fred	Oklahoma City	Stout, M. E.	Oklahoma City
Fulton, George	Oklahoma City	Strader, Ernest	Oklahoma City
Gay, Ruth A.	Oklahoma City	Suhl, E. H.	Oklahoma City
Gregory, M. S.	Oklahoma City	Sullivan, Elijah S.	Oklahoma City
Guthrie, A. L.	Oklahoma City	Taylor, W. M.	Oklahoma City
Haas, Karl	Harrah	Taylor, C. B.	Oklahoma City
Harbison, J. E.	Oklahoma City	Todd, H. C.	Oklahoma City
Hartford, J. S.	Oklahoma City	Townsend, C. W.	Oklahoma City
Haskett, Paul E.	Oklahoma City	Underwood, E. L.	Oklahoma City
Heatly, John E.	Oklahoma City	Young, A. D.	Oklahoma City
Henry, J. W.	Oklahoma City	Wallace, W. J.	Oklahoma City
Hinchee, G. W.	Oklahoma City	Wedel, Curt Von	Oklahoma City
Hirshfield, A. C.	Oklahoma City	Weir, M. W.	Oklahoma City
Howard, R. M.	Oklahoma City	Wells, Walter	Oklahoma City
Hubbard, J. C.	Cristobal, Canal Zone	Wells, Eva	Oklahoma City
Hunter, S. M.	Oklahoma City	West, A. K.	Oklahoma City
Jolly, J. W.	Oklahoma City	West, W. K.	Oklahoma City
Kelley, John F.	Oklahoma City	Westfall, L. M.	Oklahoma City
Kernodle, Stratton E.	Oklahoma City	White, A. W.	Oklahoma City
Kuhn, John	Oklahoma City	Will, A. A.	Oklahoma City
Lain, E. S.	Oklahoma City	Wilson, Kenneth J.	Spencer
LaMotte, Geo. A.	Oklahoma City	OKMULGEE COUNTY	
Langford, Wm.	Oklahoma City	Adams, Allen C.	Kusa
Langston, Wann	Oklahoma City	Alexander, Linn	Okmulgee
Lawson, N. E.	Oklahoma City	Alexander, Robt. M.	Bryant
Lee, Clarence E.	Oklahoma City	Carnell, M. D.	Okmulgee
Lipsecomb, W. P.	Oklahoma City	Coleman, Alfred	Dewar
Long, LeRoy	Oklahoma City	Culp, A. H.	Beggs
Long, Ross D.	Oklahoma City	Bercaw, J. E.	Okmulgee
Longmire, T. R.	Oklahoma City	Berry, V.	Okmulgee
Looney, R. E.	Oklahoma City	Bollinger, I. W.	Henryetta
		Boswell, Harry D.	Henryetta

OKMULGEE COUNTY (Continued)

Breese, Harry E.	Henryetta
Brymer, W. G.	Dewar
Burrows, Oscar S.	Okmulgee
Byram, E. C.	Okmulgee
Cott, W. M.	Okmulgee
Crawford, T. O.	Dewey
Dawson, Wm. D.	Henryetta
Edwards, J. G.	Okmulgee
Fawcett, A. J.	Okmulgee
Ferguson, Jas. A.	Okmulgee
Hole, Berton W.	Okmulgee
Holmes, A. R.	Henryetta
Hollingsworth, F. H.	Okmulgee
Horine, Wm.	Henryetta
Howell, T. A.	Okmulgee
Hughey, A. G.	Dewar
McKinney, G. Y.	Henryetta
Milroy, Joe A.	Okmulgee
Miner, Jas. LaSalle	Beggs
Ming, C. M.	Okmulgee
Mitchner, Wm. C.	Okmulgee
Mooney, Richard	Henryetta
Myeres, E. C.	Okmulgee
Nagle, Wm.	Muskogee
Neal, James A.	Beggs
Nelson, J. P.	Henryetta
Oliphant, Jas. A.	Preston
Pigg, W. B.	Okmulgee
Randel, H. O.	Okmulgee
Randel, B. M.	Okmulgee
Randel, D. M.	Okmulgee
Riley, J. L.	Henryetta
Robertson, Ira W.	Henryetta
Robinson, J. C.	Henryetta
Rodda, E. D.	Okmulgee
Salzberg, N. A.	Okmulgee
Sanderson, Wm. C.	Henryetta
Shelton, T. H.	Okmulgee
Simpson, N. N.	Henryetta
Stephenson, Walter L.	Henryetta
Torrance, L. B.	Okmulgee
Vernon, Wm. C.	Okmulgee
Wallace, V.	Morris
Watson, Fred S.	Okmulgee
Westover, R. L.	Okmulgee

OSAGE COUNTY

Aaron, W. H.	Pawhuska
Berry, Thomas M.	Honiny
Cannon, R. S.	Wynona
Chase, W. W.	Bigheart
Clark, W. J.	Wyandotte
Colley, K. L.	Bigheart
Colley, T. J.	Honiny
First, F. R.	Bigheart
Goss, G. W.	Pawhuska
Guild, C. H.	Osage
Hooper, E. W.	Pawhuska
Jones, Fred F.	Pawhuska
Longworthy, Geo. L.	Pawhuska
Morris, J. C.	Pershing
Neal, Q. B.	Pawhuska
Shoun, J. G.	Fairfax
Shoun, D. A.	Fairfax
Skinner, Penj.	Pawhuska
Smith, A. J.	Pawhuska
Summers, H. L.	Osage
Walker, Roscoe	Pawhuska
Worten, Divonis	Pawhuska
Yates, D. A.	Avant

OTTAWA COUNTY

Barham, J. H.	Tar River
Bewley, J. D.	Miami
Brewer, T. W.	Oklahoma City
Cannon, R. F.	Miami
Clark, W. J.	Wyandotte
Colvert, G. W.	Miami
Connell, D. L.	Picher
Cooter, A. M.	Miami
Cunningham, J. B.	Hockerville
Dawson, J. R.	Afton
Deal, Fred E.	Miami
Dolan, W. M.	Picher
Dodson, T. J.	Picher
DeArman, M. M.	Miami
DeTar, G. A.	Miami
French, J. S.	Afton
Garlington, E. F.	Tar River
Garrison, G. I.	Quapaw
Hampton, J. B.	Commerce
Harper, R. H.	Afton
Jacobs, J. C.	Miami
Lanning, J. M.	Picher
Leisure, E. A.	Slater, Mo.
Lightfoot, J. B.	Miami
Lively, C. O.	Tar River
McCullum, Chas.	Quapaw
McLelland, C. A.	Miami
McNaughton, G. P.	Miami
Miller, H. K.	Fairland
Phillips, I.	Picher
Pinnell, G.	Miami
Sibley, W. A.	Tar River
Smith, Ira	Commerce
Smith, W. B.	Fairland
Squibbs, H. W.	Quapaw
Troutt, L. W.	Afton
Webb, G. O.	Tar River
Wharton, J. T.	Picher
Wharton, J. L.	Picher
Wilks, F. M.	Bernice
Williams, J. C.	Bristow
Willis, M. P.	Picher
Wormington, F. L.	Miami

PAWNEE COUNTY

Arnold, W. E.	Jennings
Ballaine, C. W.	Cleveland
Barber, L. C.	Ralston
Beitman, C. E.	Skedee
Fleming, J. R.	Keystone
Gastineau, F. T.	Pawnee
Gayman, M. W.	Ralston
Herrington, J. D.	Terlton
McDonald, C. R.	Jennings
McFarland, H. B.	Cleveland
Phillips, G. H.	Pawnee
Robinson, E. T.	Cleveland
Thompson, E. M.	Cleveland

PAYNE COUNTY

Beach, C. H.	Glencoe
Briggs, I. A.	Stillwater
Cash, J. H.	Glencoe
Cleverdon, L. A.	Stillwater
Davis, Benj.	Cushing
Harris, E. M.	Cushing
Holbrook, R. W.	Perkins
Hough, J. Walter	Cushing
Hudson, W. B.	Yale
Hughes, Eli	Stillwater
Janeway, D. F.	Stillwater

PAYNE COUNTY (Continued)

Manning, H. C.	Cushing
Martin, J. A.	Cushing
McQuown, H.	Redrock
Mitchell, W. C.	Yale
Murphy, J. B.	Stillwater
Newell, E. G.	Yale
Proffitt, J. H.	Yale
Sexton, C. E.	Stillwater
Richardson, P. M.	Cushing
Printiss, H. M.	Yale
Simmons, C. D.	Stillwater
Weller, Ralph E.	Yale

PITTSBURG COUNTY

Allen, E. N.	McAlester
Barton, V. H.	McAlester
Baum, F. J.	Savannah
Billington, J. J.	Quinton
Bright, J. B.	Kiowa
Browning, R. L.	Hartshorne
Brunson, C. J.	McAlester
Bussey, H. N.	Pittsburg
Carlock, A. E.	Hartshorne
Chapman, T. S.	McAlester
Daniels, W. A.	North McAlester
Davis, J. E.	McAlester
Echols, J. W.	McAlester
Eubanks, J. A.	Indianola
Gardner, Pendleton	Haileyville
Graves, W. C.	McAlester
Gray, J. Worth	Quinton
Griffith, A.	McAlester
Grubbs, J. O.	North McAlester
Hailey, W. P.	Haileyville
Harris, Jesse M.	Kiowa
Harris, A. J.	McAlester
Harris, C. T.	Kiowa
Hooper, W. F.	Wetumka
Hudson, W. K.	Gowan
Irvin, J. O.	Ashland
Johnson, C. A.	Kiowa
Johnston, J. C.	McAlester
Kilpatrick, George	McAlester
Kuyrkendall, L. C.	McAlester
Lewallen, W. P.	Canadian
Loy, C. F.	McAlester
McCarley, T. H.	McAlester
McClendon, J. W.	McAlester
McCrary, J. H.	McAlester
Miller, F. A.	Hartshorne
Munn, J. A.	McAlester
Munn, R. A.	Kiowa
Norris, T. T.	Crowder
Palmer, Clara F.	North McAlester
Pemberton, R. K.	McAlester
Ramsay, W. G.	Quinton
Rice, O. W.	Alderson
Sames, W. W.	Hartshorne
Schlicht, J. C.	North McAlester
Shankle, H. D.	Hartshorne
Smith, J. A.	McAlester
Stringer, W. A.	Blanco
Street, Graham	McAlester
Thomas, Ernest	Quinton
Troy, E. H.	McAlester
Truscott, L. K.	Haywood
Turner, G. S.	Krebs
Watson, F. L.	McAlester
Wait, W. C.	McAlester
Webb, A.	Seipio

Welch, A. J.	McAlester
Williams, C. O.	McAlester
Willour, L. S.	McAlester
Wilson, McClellan	McAlester

PONTOTOC COUNTY

Berninger, W. B.	Allen
Breckinridge, N. B.	Merida, Yucatan, Mexico
Brico, Jos. G.	Ada
Burns, S. L.	Maxwell
Castleberry, R. T.	Ada
Craig, J. R.	Ada
Cummings, Isham D.	Ada
Dawson, B. B.	Ada
Deen, J. A.	Ada
Faust, W. D.	Ada
Harrison, Edith	Stonewall
Harrison, Fred	Stonewall
Hill, T. A.	Roff
Jeffress, J. L.	Roff
Lewis, M. L.	Ada
Manaseo, J. T.	Stonewall
McNew, M. C.	Ada
Meredith, H. D.	Ada
Miller, J. S.	Stonewall
Overton, L. M.	Fitzhugh
Richey, S. M.	Francis
Rose, F. C.	Allen
Ross, S. P.	Ada
Sturdevant, F. S.	Vanoss
Sullivan, B. F.	Ada
Thrikeld, C.	Ada
Webster, M. M.	Ada

POTTAWATOMIE COUNTY

Anderson, R. M.	Shawnee
Applewhite, G. H.	Shawnee
Connally, G. R.	Romulus
Cordell, U. S.	McComb
Baxter, G. S.	Shawnee
Baker, M. A.	Shawnee
Ball, W. A.	Wanette
Bradford, W. G.	Shawnee
Brown, R. A.	Prague
Butler, W. R.	Maud
Byrum, J. M.	Shawnee
Calhoun, Z. T.	McComb
Campbell, H. G.	Asher
Carson, F. L.	Shawnee
Culbertson, J.	Maud
Culbertson, R. R.	Maud
Cullum, J. E.	Teemseh
Edwards, O. L.	Shawnee
Fortson, J. L.	Teemseh
Gallaher, W. M.	Shawnee
George, L. J.	Stuart
Goodrich, E. E.	Shawnee
Gray, E. J.	Teemseh
Hughes, J. E.	Shawnee
Kaylor, R. C.	McLoud
Marshall, J. W.	Shawnee
McFarling, A. C.	Shawnee
McGee, W. M.	McAllen, Texas
Owen, A. H.	Meeker
Phillips, W. D.	Maud
Rawls, W. E.	Asher
Reeder, H. M.	Shawnee
Rice, E. E.	Shawnee
Rowland, T. D.	Shawnee
Royster, J. H.	Wanette
Sanders, T. C.	Shawnee

POTTAWATOMIE COUNTY (Cont.)

Scott, J. H.	Shawnee
Stooksbury, J. M.	Shawnee
Turner, J. H.	Shawnee
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Brasclon, B. E.	Miami
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*Blank spaces indicate no report or lack of renewal at date this went to press

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NUMBER 7

MEDIASTINAL NEOPLASM.*

HORACE T. PRICE, M. D.

TULSA, OKLAHOMA

The mediastinum is the space left in the median portion of the chest by the non-approximation of the two pleurae. It extends from the sternum in front to the spine behind. Within it are the contents of the thorax excepting the lungs. The mediastinum may be divided into two parts, an upper portion, above the upper level of the pericardium and between the manubrium sterni in front and the upper dorsal vertebrae behind, the lower boundary being on a level with the lower part of the body of the fourth dorsal vertebra, which is named the superior mediastinum, and a lower portion, below the upper level of the pericardium. This lower portion is again subdivided into three;—that part which contains the pericardium and its contents, the middle mediastinum; that part which is in front of the pericardium, the anterior mediastinum; and that part which is behind the pericardium, the posterior mediastinum.

The contents of the superior mediastinum are principally the arch of the aorta, the innominate, left carotid and subclavian arteries; the upper half of the superior vena cava and the innominate veins and the left superior intercostal vein; the pneumogastric, cardiac, phrenic, and left recurrent laryngeal nerves; the trachea, verophagus, and thoracic duct; the remains of the thymus gland and some lymphatic glands.

The Anterior Mediastinum is narrow above but widens out a little below. Its anterior wall is formed by the left triangularis sterni muscle and the fifth, sixth and seventh left costal cartilages. It contains small branches of the internal mammary artery and some lymphatic vessels.

The Middle Mediastinum is the broadest part of the interpleural space. It contains the heart enclosed in the pericardium, the ascending aorta, the lower half of the superior vena cava, with the vena azygos major opening into it, the bifurcation of the trachea and the two bronchi, the pulmonary artery dividing into its two branches, and the right and left pulmonary veins, the phrenic nerves, and some bronchial lymphatic glands.

The Posterior Mediastinum is an irregular triangular space running parallel with the vertebral column. It contains the descending thoracic aorta, the greater and lesser azygos veins, the oesophagus, thoracic duct and some lymphatic glands.

Solid tumors of the mediastinum are fortunately rare. They may be either benign or malignant, primary or secondary. The secondary are fairly common

*Read in Section on General Medicine, Annual Meeting, Oklahoma City, May, 1920.

by extension from nearby tissues. The benign tumor produces its symptoms by pressure. The malignant growth by pressure and by the destruction of surrounding tissues. The benign tumors mostly found are lipoma, fibroma, dermoid, echinococcus, cyst, lymphoma, enchondroma, gumma. Both carcinoma and sarcoma may be primary more often than the benign tumors, originating in the remains of the thymus gland, bronchial glands and walls of the bronchi. Sarcoma is more often primary than carcinoma and occurs more often in males, and during the fourth decade.

Anders and Boston¹ state that Hare studied 520 cases of disease of the mediastinum and of new growths found 134 to be carcinoma, 98 sarcoma, 21 lymphoma, 7 fibroma, 11 dermoid cysts, 8 hydatid cysts, and a few of others. Carcinoma was found 48 times in the anterior mediastinum alone, while 33 sarcoma were found in the same location. The secondary malignant tumors arise by extension from the surrounding tissues, as *pluræ* or lungs, or from more distant structures. The growth may be very small, occupying but one chamber of the mediastinum or may fill the entire space and be bound by adhesions to and in the case of malignancy, infiltration into all the tissues in and surrounding the mediastinum. In malignancy, too, there may be found a small quantity of bloody fluid in the chamber. The glands of the axillae and the supraclavicular lymphatic glands as well as those in more distant portions of the body may be enlarged and infiltrated with malignant cells. This may apply also in Hodgkin's disease, as in a case reported by W. M. Lyons²; a case of neoplastic growth having the tissue characteristics of Hodgkin's granuloma situated primarily in the mediastinum, in a young adult, duration 16 months, caused pressure erosion of the chest wall. Pathological findings were extension into the right lung, involvement of the bronchial and mediastinal lymph nodes, of many abdominal, retroperitoneal and inguinal glands. Metastatic growths were found in the unenlarged spleen, in the tail of the pancreas, right kidney, epicardium and beginning to invade the myocardium.

The symptoms of tumor of the mediastinum are caused principally by pressure. Dyspnea by pressure on the lungs, bronchi, trachea or recurrent nerve. Altered voice by pressure on one recurrent nerve. Paralysis of the diaphragm by pressure on the phrenic nerve. Slow pulse by irritation of the vagi. Rapid pulse by paralysis of the vagi. Precordial distress and irregular heart action by pressure on the heart. Dysphagia by pressure on the oesophagus. The superior vena cava may be compressed with the resulting congestion of the face, neck and arms with dilated veins of the upper part of the chest and there may be localized areas of edema such as the suprasternal notch. Pressure of the nerves may cause spasmodic cough, maybe with a brassy quality, spasm of the glottis, respiratory arrhythmia, with nausea and diarrhoea. Hyperacidity may be present caused by pressure on the pneumogastric nerve. Pressure on the sympathetics may cause exophthalmos; partial sweating, psialorrhea and lacrimation. Intercostal neuralgia is caused by pressure on the intercostal nerves. The arteries usually escape compression. Symptoms of compression are more pronounced when the tumor is in the anterior mediastinum. Symptoms due to pressure on the air passages and oesophagus when the tumor is in the posterior mediastinum and the liability for pain to develop is greater in the latter.

Examination may show cachexia if the tumor is malignant. The patient is in great distress because of difficulty in breathing and fear. There may be dilated veins of the upper chest wall, edema in the suprasternal fossa, glandular enlargement above one clavicle and in the axillae, and there may be unilateral sweating. Localized bulging of the chest wall may be present. Exophthalmos may be noted. Dulness or flatness will be found over the sternum with lessened or entire absence of the respiratory or heart sounds, and tactile fremitus is absent. There may be great cardiac displacement. Often there is flatness over the lower chest due to pleural effusion.

The diagnosis of a growth in the mediastinum is in itself, as a rule, not difficult but the differential diagnosis may be extremely so. The symptoms, such as

dyspnea and dysphagia, suggest a chest condition, dulness and absence of breath sounds over the sternal region point the way to the mediastinum. A knowledge of a malignant tumor in another part of the body is important. Glandular enlargements favor sarcoma or carcinoma. Erosion of the chest wall may be caused either by solid tumor or aneurism. Varicose veins of the thorax are usually caused by malignant disease, but if it lasts too long a search must be made for other causes of obstruction, such as thrombosis extending to an innominate vein or superior vena cava from an inflamed condition of the hand, arm, axilla, head, face, neck, shoulders, or front of chest. Or it may be caused by chronic fibrous mediastinitis, sometimes tuberculous or gummatous, but often rheumatic in origin and resulting from repeated attacks of pericarditis and pleurisy with matting together, not only of pleurae, diaphragm and pericardium, but also of the structures in the superior, posterior and anterior mediastinum to one another. In case of glandular enlargements it might be necessary to remove one and examine a section to determine Hodgkin's disease, malignancy, syphilis, or tuberculosis. A history of syphilis or a positive Wassermann test would suggest gumma or aneurism. The latter might be shown by its expansile pulsation, diastolic shock, bruit, tracheal tug and the other symptoms and findings commonly caused by aneurism. Extreme tuberculous enlargement of glands is rare and would probably be accompanied by evidence of pulmonary tuberculosis.

Coughing up or aspiration of hair and finding of fatty material undergoing decomposition is positive evidence of dermoid cyst. Suppuration in the mediastinum commonly follows injury of neighboring structures, which should be looked for, ulceration of foreign bodies in the trachea and oesophagus or carcinoma of the oesophagus, and may follow erysipelas and the eruptive fevers. Many chronic abscesses are tuberculous.

The prognosis of any of these conditions is extremely bad. A far advanced case is hopeless, but life might be prolonged or a possible cure effected with a small benign non-adherent tumor favorably situated if it could be diagnosed so early, but as that cannot be done, we are helpless with solid tumors even though benign. The treatment of solid tumors can hardly be undertaken surgically. The roentgen-ray may be tried. The specific treatment of syphilis should be inaugurated if the Wassermann test is positive. Aspiration of the contents of cysts may be successful in prolonging life for a number of years. Withdrawing fluid from the pleural space relieves some of the dyspnea and often causes a heart murmur to disappear, but when that has been done we must not conclude that this fluid is the sole seat of trouble.

Biblio.

1. Anders and Boston, 2nd edition.
2. W. M. Lyons, *Am. J. Med. Sciences*, Phila., Oct., 1919.

DISCUSSION.

Dr. Ray Balyeat, Oklahoma City: I would like to report a case on which we made a diagnosis of mediastinum on which we were badly mistaken. A case was sent from the University hospital to the Tubercular Clinic with a diagnosis of tuberculosis. He was a large man who had lost weight, but on examining him we thought it was not tuberculosis but some mediastic growth of some sort. He had no temperature. X-ray disclosed a mass definitely outlined extending to the right border. We found the trachoma covered over. Several others saw him and we felt sure it was a mediastic tumor of some kind and from the fact he had no temperature we told him it was a hopeless case and I referred him to the county health officer. He was going to send him to the poor farm, but he asked for a few days of grace and went to a chiropractor. They ruptured a mass and he is going to get well. This man we have asked to come back so we could get some of the material he is coughing up but he won't come back.

Dr. A. W. White, Oklahoma City: I am sorry I did not get in in time to discuss

the paper and hear it read. I must compliment the doctor first in the way he has taken up the anatomy and the physical conditions which are fundamental in regard to these things. In taking up this matter three or four things come to our mind. Tuberculous process and malignancy. Malignancy and syphilis are the two things most difficult to differentiate in diagnostic way. Tumors of the oesophagus are a little more common. It is not difficult usually if we can determine the tumor to be connected directly with the oesophagus to be a malignancy for syphilis rarely affects the oesophagus. Practically all these tumors affect the oesophagus and the symptomatology is what the patient usually seeks relief for. With the use of plates it is often difficult unless the plates be taken at an angle. In which case we can usually detect the tumor; the loss of weight occurs in most cases of tumors of the oesophagus. In malignancy there is usually more loss of weight. The rate of pulsation of course helps to fix it as a tumor.

Dr. H. T. Price, Tulsa: The university hospital case was very interesting. It would be interesting to go into the examination of that material. With Dr. Smith I saw a case of carcinoma which was very interesting. It filled every available place. Every bit of the tissue. In the postmortem we took out the section and sent it down to the University hospital where it was examined and showed it to be carcinoma.

GASTRIC CANCER.

R. D. Carman, Rochester, Minn. (*Journal A. M. A.*, Nov. 15, 1919), says that without the use of the roentgen ray a positive diagnosis of cancer of the stomach is not often made early enough in the disease to indicate favorable possibilities of operation. The chances for cure in any particular case, according to the roentgen-ray evidence of operability, place it in one of three groups; Group 1, tumors of the pyloric part, the operable portion of the stomach; Group 2, the borderline zone, or medium part, and Group 3, tumors of the cardiac region or the definitely inoperable zone. The roentgen-ray, of course, does not determine malignancy, but if the patient who has indefinite gastric symptoms has any filling defect in the contour of the stomach, the chances are that it is malignant. We cannot differentiate in 100 per cent of the cases between cancer and ulcer. Perforation and metastasis almost invariably remain undiscovered until after incision. Useless operations can in some cases be avoided by the clinician by discovery of metastases elsewhere, but the most frequent form of metastasis (abdomina) is undetectable by any method. Ascites, when associated with a history of malignancy, is a fairly reliable index of inoperability. Tumors of the fundus, not causing pyloric or cardiac obstruction, may exist for a time without causing inconvenience, and are usually inoperable by the time clinical diagnosis is definite. Group 3, or inoperable cases, are either located in the cardiac region alone, or have extended to it. If a tumor has not invaded the cardiac end, the patient should be given a chance of its successful removal by exploratory laparotomy as metastases are very liable to occur with the age of the growth. The roentgen ray can now discover 95 per cent of all gastric tumors, of which only 50 per cent are still operable. With routine roentgen examinations the percentage of recovery should be much higher because cardiac location occurs in only a small number of gastric cancers.

SOME REFLECTIONS UPON THE DIAGNOSIS OF CANCER.

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Daily contact with a large clinical material teaches one to be constantly on the alert lest a cancer be overlooked. We have been forced to abandon many traditions in regard to neoplasms in general and cancer in particular. One of these is that the latter is necessarily a disease of middle or old age and a second, that it usually presents clinical symptoms which direct one's attention to a particular viscus as being the seat of a cancer. This is especially true of the stomach, gall-bladder, small and large intestine, rectum, bladder, prostate, and breast. In these viscera one must always be on one's guard and not omit any diagnostic method in order to avoid error.

I do not know of any greater service to be rendered to the general practitioner who first sees the majority of cases of cancer than to direct his attention to some of the commoner pitfalls in the diagnosis of this condition. It will be impossible in a paper of this length to do more than to "scratch the surface." I will, therefore, confine the discussion to some personal experiences in the diagnosis of cancer of a few of the regions of the body, with which the general surgeon is more likely to come in contact.

CANCER OF THE TONGUE.

The most common clinical pictures under which this appears are either in the form of an ulceration or of an area similar to that commonly known as leucoplakia or "smoker's patch." There is no characteristic location for either of these, that is, they may begin on the floor of the mouth where the mucous membrane is reflected upon the sides of the tongue, or on the dorsum, root or lateral aspects. The typical carcinomatous ulcer has raised, rather sharp, very firm edges. The depth of the ulcer varies greatly and the superficial loss of substance is often no criterion as to the extent of involvement of the deeper tissues.

The principal conditions from which the ulcerative form must be distinguished are: (a) a decubital ulcer due to irritation of a tooth, (b) tuberculosis of the tongue, (c) tertiary syphilis, that is, a gumma.

Of these it is not difficult as a rule to exclude the first two. Examination of the teeth opposite the site of ulceration will soon enable one to eliminate a sharp tooth as the cause of the constant pressure with resultant ulceration. Tuberculosis of the tongue is a comparatively rare affection but should be thought of if the ulceration is superficial and its edges undermined, soft and ragged.

The greatest difficulty is presented in cases in which the ulcerative form of carcinoma of the tongue resembles a gumma. We were formerly dependent on the therapeutic test alone, that is, the administration of antisyphilitic remedies. If the lesion improved, the conclusion was reached that we were not dealing with cancer and vice versa. Unfortunately for the patient, such a decision was not infrequently fatal for his chances of early operation because the least improvement led him to believe that he was safe and consequently more radical measures were postponed. Many excellent surgeons even today overlook the fact that cancer and tertiary syphilis may coexist, hence the improvement, even though temporary, after vigorous antisyphilitic treatment, may be readily understood.

The Wassermann reaction has been of the greatest service in the differentiation of cancer and syphilis of the tongue. Like many other similar tests, it is not infallible, yet taken in conjunction with the history and local findings, it is a very important addition to our diagnostic resources when it is positive, always bearing in mind, however, that a cancer of the tongue may develop in a gumma. Excision for microscopic examination may be necessary, but I do not believe such a procedure is often indicated because of the danger of reinfection of the tissues at the point from which the section is taken.

As a rule it is not difficult to make a diagnosis of the ulcerative form of cancer of the tongue from the history and local findings. The presence of enlarged, indurated lymph nodes in the submaxillary and upper jugular regions may be of confirmatory value, but you must remember that as elsewhere in the body a fairly large proportion of the enlarged regional lymph nodes are due to inflammatory causes. The diagnosis of the form of cancer of the tongue which has its origin in the circumscribed epithelial proliferations, commonly spoken of as "smoker's patches," or leucoplakia, is far more difficult. This is due to the fact that the thickening in such a patch is so gradual, in the majority of cases, that it often escapes the notice of even very observing patients. To the naked eye there is often very little change, but on palpation, the silvery white area is found to be very hard and the induration extends deeply into the substance of the tongue. These cases require early attention as the tendency to recurrence is very great. In the next paper I will speak of the diagnoses of cancer of the breast.

RADIUM TREATMENT OF CANCER OF THE ESOPHAGUS UNDER ROENTGEN-RAY CONTROL.

The action of radium on malignant tissue is discussed briefly by R. W. Mills and J. S. Kimbrough, St. Louis (*Journal A. M. A.*, June 5, 1920), and its use in cancer of the esophagus in greater detail. The problem offered by carcinoma of the esophagus is quite different from that of other malignant conditions in which favorable results have been obtained. The exact thickness of the tumor is unknown and usually not uniform. Not only is there no surrounding tissue of a protective nature, but instead, the thin-walled esophagus is in contact with vital structures whose devitalization may lead to ulceration and perforation. The situation of cancer of the esophagus renders exact centralization of application and protective procedures mechanically difficult. Esophagoscopy has heretofore been utilized by some to accomplish certain ends, but the use of the roentgen ray is preferred by the authors. An initial roentgen-ray study of the position and physical peculiarities of the tumor is made by both screen and plate, a simple mixture of bismuth subcarbonate in water being used as a means of visualization, and, when the stricture is not great, bismuth suspended in artificial buttermilk. The patient is given a preliminary injection of morphin and atrophin one-half hour before the radium treatment is begun, the dose obviously as indicated. It is impossible to overestimate the value of this procedure in quieting the patient and making the endurance of a six-hour application possible without undue suffering. Occasionally, in marked strictures, a spoonful of olive oil one-half hour before treatment is helpful in relaxing secondary spasm. Preliminary bouginage is occasionally useful. The radium enclosed in a container composed of German silver 0.5 mm. in thickness and further filtered with 0.5 mm. of brass and a thickness of rubber is mounted as a terminal on a slightly springy drawn silver wire encased in a rubber tube. It is introduced after the manner of an ordinary esophageal sound. The wire applicator or stomach tube bearer is anchored by means of a bridle bandage about the patient's head. The radium is left in situ for six hours at each initial treatment. Cases were treated on from one to seven occasions. The frequency and number of treatments and the length of other than the initial treatment was occasionally varied somewhat to meet individual indications, also as much as was thought advisable in an effort to determine the most effective procedure. Nearly all the author's work has been done with 50 mg. of radium element. The immediate results of the treatment were in most instances beneficial, sometimes strikingly so as to the relief of the dysphagia. No case treated failed of improvement in this regard. The improvement in several was almost immediate, within twenty-four hours, possibly owing in part to a bouginage action of the radium capsule. A gain in weight occurred in most cases. In several cases there was a return in a degree of the dysphagia, usually relieved by another treatment. The reestablished dysphagia in some instances seemed of the nature of intermittent spasm. Eleven cases are cited.

PAGET'S CANCER.

Eczema of the Nipple, or Paget's Disease.

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In accepting the invitation to present a paper on some phase of cancer, I have selected this as being the one disease more outrageously mismanaged than any malignant condition we have to deal with.

It begins so insiduously that neither the patient nor the doctor is attracted by it until it is hopelessly malignant. The mortality given by all the authors that I can find is from 87 to 90 per cent, which is an appalling statement.

In searching the literature, we find there has been so little written about it since Paget's original article in 1847 that we are not surprised at its being treated with salves and ointments, unrecognized until the patient is doomed to a cancer death.

Murphy was continually preaching its ravages, but most authors have been content with a bare mention of it, without discussing its symptoms or course.

DIAGNOSIS.

The first symptom to appear is a tiny discharge from the nipple, which forms a small crust around the lower part of it, and produces slight irritation. This is usually thought to be eczema, and is often treated for it, both by the patient and her physician. Later the nipple becomes reddened and when the tiny crust is removed it leaves a raw indurated area beneath it. This gradually spreads until the entire nipple is involved and metastasis appears in the distant structures.

The discharge that appears early is not enough to be very noticeable as it is only a drop or two and is usually of a yellowish color, later becoming a little bloody, but it is due to necrosis in the breaking down pre-cancer cells of the lacteal ducts. Pre-cancer cells are always present even before the discharge appears, though the tumor itself cannot be palpated, and the discharge never comes from anything else but these cancer cells themselves, no matter how slight. It is possible to have a discharge from certain lacteal cysts, but it is more profuse. It does not form a crust, and it does not irritate, or produce eczema. We may have fissures and a certain amount of irritation about the nipple during lactation, but this is so characteristic that it is seldom mistaken.

The course of the disease is usually slow in its development, extending over a period of from six months to as many years, but it is inexorable in its course. The only hope of a cure rests in our ability to recognize it by the tiny drops of irritating exudate which is always present in Paget's disease, and is never present in anything else.

TREATMENT.

The treatment is surgical from the beginning. The breast should be subjected to a radical amputation as soon as the exudate appears. It is safe to tell the patient that one hundred per cent will eventually result in cancer, and that ninety per cent will result in a cancer death, if they are left until the advance symptoms develop. The operation should include the removal of the glands of the axilla, and the gland-bearing area of the pectoralis, major and minor. Also a large area of skin.

Every case operated should be followed by an extensive course of x-ray treatment, regardless of the extent of the disease found at operation, but x-ray should never be recommended as a primary treatment, as there are no cases of cure on record of this treatment alone.

X-ray is preferred to radium in the treatment following surgery because the rays are not so concentrated, and can be applied to a larger field. However, for those cases that we have failed to recognize until the last vestige of hope for a cure is gone, and we no longer feel that it is advisable to subject them to radical surgery, we may turn to radium as being the remedy that will offer the greatest relief and retardation of growth and thus prolong their lives, and render them somewhat more comfortable for their remaining days.

ACIDOSIS.*

C. J. FISHMAN, B. S., M. D.

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In 1850, Bousingault discovered the fact that a large quantity of ammonia frequently appeared in diabetic urine. The work was repeated in 1879 by Hallervorden, who usually gets credit for this discovery. The search for acid radicals in the urine to account for presence of ammonium salts resulted in the discovery of betaoxybutyric acid by Stadelmann in 1883. It was noticed that injection of animals with mineral acids resulted in death, although the blood serum remained alkaline to litmus. Kussmaul, in 1874, described the clinical picture of diabetic coma, especially the type of respiration calling attention to the "Air Hunger." Recent studies have emphasized the fact that fixed alkalies are required for the physiology of the body and are essential to life. Since then it is considered that there is a normal stability for the amount of alkaline bases in the blood which regulates the excretion of acid radicals.

The normal relation of acid or base radicals in the body is regulated by two factors, namely, excretion and neutralization. This equilibrium is maintained at a very constant level, apparently more so than the other normal constants, such as temperature and osmotic pressure. The difficulty in carrying out titration methods to determine the degree of alkalinity of the blood serum or body tissues is great because of the distinction between actual reaction of chemicals and titrable reaction. For example, some salts remain quite constant in reaction even though acids or alkalies are added in moderate amount. Neutral calcium carbonate suspension requires much hydrochloric acid to acidulate. Faintly alkaline blood serum can neutralize considerable amount of acid due to carbonates, phosphates and proteins that it contains. As a matter of fact the true reaction depends upon H. and OH. ions (dissociation) and is maximum at its highest dilutions. Pure dry water, free of sulphuric acid, has no acid action to litmus and has none of the ordinary properties of an acid. It does not react upon pure dry metallic sodium. Likewise, pure dry hydrochloric acid will not react with dry carbonates. These strong chemicals must first be dissociated by the addition of water into their respective H. and OH. ions before the typical reaction can become manifest. Indicators are themselves either alkaline or acid and require some opposite ions to change their color.

During normal digestive and metabolic processes on a mixed diet the acid production is greater than the base production, and regulation of the stability of the body tissues is carried out by the two important factors of excretion and neutralization, the striking feature of which is manifest by the ability of the kidney to excrete a sharply acid urine from the alkaline blood. Sulphur and phosphorus oxidation products are neutralized by bases. The reaction of blood and tissues depends in general: 1. Upon the relative amount of Na_3PO_4 or Na_2HPO_4 . This mixture is most effective in maintaining a constant reaction. 2. The ability of the colloids to maintain stability of reaction and the production of ammonia from protein products of metabolism and its neutralizing effect upon acid radicals. The balance is normally excreted as urea. The maintenance of alkalinity of the blood is carried out by: 1. Intake of fixed bases in food. 2. Elimination of carbon dioxide by the lungs and acids by the kidney and in the body by ammonia, produced by protein metabolism. 3. The neutralization of acids. The maintenance of the normal equilibrium is apparently a simple matter in health, but under pathological conditions is often difficult.

Carbon dioxide can easily be excreted as long as a sufficient amount of fixed bases are available to permit its transportation to the lungs. The kidney can take care of a certain excess of acid but the major work falls upon the process of neutral-

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ization by ammonia produced by metabolic change. Normally, two to five per cent of total urine nitrogen is excreted as ammonia. In acidosis ten to forty per cent may be so excreted, during which time the fixed bases of the body readily become depleted. The efficiency of the process is determined by the ability to protect or conserve fixed bases or base yielding substances in the blood and tissues. The carbon dioxid is carried to the lungs by bases and when these are reduced the gas accumulates in the tissues which are no longer able to utilize oxygen, resulting in dyspnea, although the oxygen remains in venous blood, giving it a red color. The individual becomes dyspneic and suffers from subjective symptoms of suffocation just as if he were deprived of air. This results in what is clinically described as "Air Hunger," and eventually death if exhaustion is sufficiently extreme. The alkali reserve under these conditions rapidly becomes depleted. The onset is frequently sudden or followed by a period of lassitude. Languor and loss of interest in their surroundings are commonly seen. The extreme depression in children is pitiful to watch.

CLINICAL SIGNS OF ACIDOSIS.

Early symptoms are frequently restlessness and sleeplessness with later a tendency to prostration, somnolence and coma. Increased rate of respiration increased depth with prolonged expiration, accompanied by a red flushed color of all the mucous membranes, especially the lips, constitutes what is known as typical "Air Hunger," or hyperpnea described by Kussmaul, and occurs in advanced cases of acidosis. The definite appearance of dehydration of the tissues in which the eyes are sunken, the skin dry, cool and flabby, with a parched tongue, is frequently to be noted. Dehydration of the body tissues and acidosis, therefore, frequently go hand in hand. The acetone odor to the breath is usually, although not invariably, present and is accompanied by the presence of ketone bodies in the urine, of which acetone is a typical example. This is described as the peach-blossom or fruit orchard odor to the breath and is easily recognized, and vomiting which is frequent, may be extreme and aggravates the symptoms by the loss of water and salts. The alkaline tolerance, that is, the amount of alkali in the form of sodium bicarbonate sufficient to neutralize or alkalinize the urine in a normal individual, is 5 grams. In acidosis very much larger quantities are required. In cases which produce symptoms of mild dyspnea approximately 75 grams are required, while in cases of air hunger 150 or more grams may be necessary.

LABORATORY METHODS FOR DIAGNOSIS OF ACIDOSIS MAY BE CLASSIFIED AS:

1. Examination of blood for: (a) Lowered alkalinity; (b) Lowered carbon dioxid content.
2. Examination of the alveolar air for lowering of carbon dioxid tension.
3. Examination of urine for: (a) Excess of acid, or for abnormal acids; (b) Change in fixed bases; (c) Increased ammonia output.

The alkalinity of the blood remains practically constant, even in outspoken acidosis so that this method is not directly applicable. The carbon dioxid content of the blood serum is so closely related to the carbon dioxid tension of the alveolar air that the latter process is most practical and important in examination and has been simplified so that it is quite easy to perform.

The differential diagnosis of the condition of acidosis from other conditions which produce lowered carbon dioxid tension in the alveolar air must be made. These are: 1. Increased pulmonary ventilation due to the effect of high altitudes. 2. Circulatory changes which interfere with the interchange of gases. These may be usually differentiated, while confirmatory evidence may be sometimes obtained by examination of urine in which the acetone bodies may be present. Normally the tissues are nearly saturated with alkaline bases because the injection of the small amounts of 5 grams of sodium bicarbonate is promptly followed by

excretion in the urine to an alkaline reaction. Upon this fact, the bicarbonate saturation method is practical and available as a diagnostic test.

An ingenious and practical method, elaborated by Sellards for the determination of the alkalinity of the blood, is by the separation of proteids in 1 cc. blood serum by precipitation by 25cc. of absolute alcohol and the use of a few drops of phenolphthalein as an indicator. With normal human serum the residue on evaporation is always red (alkaline); in acidosis it is colorless.

The order of appearance of disturbance of alkalinity of the blood as shown by tests has been described as follows in relation to their delicacy: 1. Appearance of acetone bodies in the urine (only in carbohydrate acidosis). 2. Increased tolerance to sodium bicarbonate. 3. Lowering of carbon dioxide tension of the alveolar air (and the blood). 4. Change of reaction of protein-free blood serum to phenolphthalein. 5. Increase in ammonia output. 6. Increase in hydrogen ion concentration of the blood.

However, variations may occur so that the above table is not to be considered as an accurate guide to the degree of acidosis. The increase in tolerance to sodium bicarbonates is considered the most delicate of the tests which are specific for acidosis. This method combines at once a measure of the degree of acidosis as well as an appropriate therapy.

DEFINITION:

Acidosis is essentially a diminution in the supply of fixed bases in the blood and tissues of the body.

ETIOLOGY OF ACIDOSIS:

Depends upon: 1. Defective oxidation of organic acids, for example in the diabetic type. 2. Defective elimination of acids in nephropathies. It occurs most commonly in diabetes, certain nephritic conditions, most typically in the nephritis of Asiatic cholera and chronic vascular nephropathies, in starvation, in the so-called food intoxication of children, and in certain diseases of the liver which disturb the metabolic processes. Also in acute febrile conditions, severe diarrhea, cyclic vomiting, and following general anesthetics, especially ether and chloroform.

Sellards states that there is at present no adequate explanation for the acidosis occurring in the so-called "Food Intoxication" in children. It must be remembered that there can be a general disturbance of metabolism where the relationship of the various food elements is not proper, for instance, there may be temporarily too much proteins or too much fat ingestion for the amount of carbohydrate intake or there may be too great a concentration of one of these foods. As a homely example of this, I frequently refer to the factors of excess of carbon deposit in an internal combustible engine, namely, a gasoline engine, in which the carbon represents improperly oxidized hydrocarbons. If there is too great a concentration of gasoline (lower carbon groups) or too much oil (higher carbon groups) in the cylinders, the combustion is improper and carbon is deposited. As a matter of analogy, it is interesting to point out that the gasoline groups run somewhere in the neighborhood of C6 carbon chain, similar to the C6 carbon chain of the simple sugar group, while the oil runs in the neighborhood of C16 to C18 carbon chain, analogous to the C16 to C19 groups of the edible fats. Inasmuch as authorities on the subject of acidosis in children find no satisfactory explanation for the development of acidosis in children, I offer the above explanation to be verified or disproved by experimental evidence.

THE TREATMENT OF ACIDOSIS:

Is based upon the two important factors that are associated with it: (1) The reduced alkalinity of the blood and body tissues, and (2) the dehydration which often accompanies it.

In order to prevent further dehydration and loss of alkaline bases it is im-

portant to remember that the use of drastic cathartics, especially calomel, produces results by watery stools and at the same time carries away some of the body salts. It cannot, therefore, be too strongly urged that these remedies be withheld in cases of established acidosis or where acidosis is suspected.

In mild cases the use of alkalis by mouth in sufficient quantities to alkalinize the urine is usually sufficient. This simply carries out one of the diagnostic methods of acidosis, namely the determination of the sodium bicarbonate tolerance. The amount of soda which is required is indefinite. If 1 to 2 grams (15 to 30 grains) are given in water by mouth every hour and the urine tested before each subsequent dose, the quantity required and the tolerance is soon determined.

In severe cases enormous quantities of sodium bicarbonate are often needed, and if vomiting occurs it must be given either by rectum or by intravenous methods in about a five per cent solution carefully sterilized. When dehydration is associated with acidosis, as is often the case, the latter method is to be chosen as being most effective and precise.

The use of acid fruit juices, such as lemonade, is advantageous because ultimately these acids oxidize to carbon dioxide and water, both of which are sorely needed by the body tissues. In cases of starvation, especially in acidosis of children, the need for carbohydrates, especially those easily assimilated, such as glucose, is imperative and this must be supplied either with the lemon juice, by rectal injection, or sometimes intravenously.

The result of treatment of a case of acidosis is one of the marvels of modern medicine and falls nothing short of being miraculous, appreciated alike by the patient, his family and the attending physician.

The general outline of this paper is obtained from Sellard's Monograph on Acidosis, whose excellent work has done much to establish the appreciation of this subject.

DISCUSSION.

Dr. Gayfree Ellison, Norman: I want to say that I appreciate that paper very much. I believe that we will come to the point where we will make an examination of the urine for acetone. We make an examination for albumen and that is as far as we go. I remember a professor once had a class of doctors and he said he would show them how the urine analysis was usually made. The doctor says, "I will take the bottle and examine it later." The doctor puts it on a shelf, and later finding it shakes it up and tells the patient the urine is all right. It only takes a few minutes to make an analysis for acetone and if as soon as you find the acetone you begin treating with carbonates immediately you will avoid many severe cases of acidosis that occur so often in children. The cases of acidosis we get so often in children are often in the tonsils. We also find we have the acetone in the urine in a chronic infection of the tonsils. If you remove the tonsils you will often cure the acidosis.

Dr. Lea Riley, Oklahoma City: It is true that acidosis is one of the most frequent diseases found. It is a routine in our office to analyze for acidosis in all urinary cases. Acidosis is a representative of disturbed metabolism. Take any person of normal health, feed them on a fatty diet for a few days and you will get a case of acidosis. It was particularly so during our influenza epidemics. Acidosis was a very pronounced fact. It is true that fat people went to pieces much quicker than the thinner persons in cases of typhoid, pneumonia, etc. The reason is that the fat goes to pieces much quicker. Now it has been a strange thing that among the Eskimos, who live altogether on fats, that we have very little acidosis. The matter of diabetes is something I think we should particularly take cognizance of. A case Dr. Fishman and I have just recently had, a little child who was of a diabetic ancestry, had had a bicarbonate spree at some of the fountains and went home and began vomiting, which lasted for two days. We tried the sodium bicarbonate by the mouth and finally took it to the hospital and gave it an intra-

venous injection of normal sodium chloride. The reason we gave the salt solution in this case was that it had so much sugar in the urine. We gave this little child 500 cc. of the solution and followed it by a solution of distilled water, but from the time of that intravenous injection we had no further trouble.

Dr. J. C. Taylor, Chelsea, Okla.: I want to say I appreciate the paper very much. As I understand acidosis, the term used is probably different from what it has been formerly. I mean the term originally defined that condition Dr. Riley has just mentioned, which we find is the term diabetes. However, as the term is used in the present instance I believe it is somewhat different in that it is not the case that we find acetone of any particular substance to account for the acidosis, but rather it is a condition of low alkali reserve in the blood and the result of metabolic changes that take place in the body under certain circumstances and conditions. In many cases to be operated on, the carbon dioxid tension is taken because it has been proved that ether often produces acidosis. As the doctors both said, many conditions, influenza, pneumonia, and food intoxication of children, produce these conditions. One may think it was necessary to have an elaborate display of instruments and chemical appliances to determine these conditions, but it is equally easy to take the carbon dioxid tension.

Dr. Fishman, closing: This disturbing picture one sees in acidosis of children, particularly in general practice, and those of you who do surgery recall the disturbing post-operative picture, in some who are not getting well. Many of these cases of acidosis, if properly treated, can be eliminated. The picture of an infant or a young child with acidosis is one that brings tears to the eyes of the parents and distress to the face of the doctor who does not know what he is about. These cases should be looked at from two points of view and treated accordingly and everyone will be happy. The onset of acidosis is often accompanied by an acute process which stands in the background. There may be slight temperature, not over 100, with the edges of the tonsils red. We hope, in answering Dr. Ellison, that we have gotten beyond the stage where we neglect the examination of the urine we are requested to make. People who have a chronic acidosis which is not manifest with the typical odor we can detect, is harder to find. The relation of fat to acidosis and starvation of course is interesting. It is not definitely known why these things occur. There is a condition opposite to acidosis which we might call alkalosis, in which there is an excess of alkali in the blood. Where the parathyroids are injured alkali is probably a factor. At all events, even if we cannot prove an excess alkali in the tissues, we note a large amount of mineral acid will reduce the symptoms. This subject opens the field for a great amount of work in metabolism.

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CANCER.

D. R. Mishell, New York, (*Journal A. M. A.*, Dec. 27, 1919), reports a case of rapidly growing cancer on an ulcerated surface due to two drops of sulphuric acid. The first growth, which was removed, was a squamous cell carcinoma, but three months later a second growth appeared causing metastases. It appears that the healthy cells, Mishell says, in a case like this may be subject to a chronic slow-healing ulceration, which, if a predisposition to cancer is present, a malignant condition will follow. His theory of the case is that the acid burn, which is ordinarily slight and easily cured, merely provided a place of lowered resistance which, combined with the predisposition to cancer, and cancer age (57 years) of the patient, led to the malignant growth.

MR. WILSON, PSYCHOLOGICALLY.*

By JOSEPH COLLINS, M. D.

NEW YORK, N. Y.

After having lived two years in Italy, I found many things about the Italians difficult to understand. After having lived fifty years in the United States of America I find some things about the Americans beyond comprehension.

Nothing is so enigmatic as their attitude toward Woodrow Wilson, the man who was accorded higher esteem in Europe than was ever vouchsafed mortal man, and who gave and has since given earnest of such accord. From the day he decided to represent our country in the Peace Conference the papers and magazines began to contain the material from which could readily be formulated a new Hymn of Hate. What was the genesis of this display? What was the cause of this distrust? From whence did this venom emanate? How could a man whose life was a mirror of integrity, whose ideals were of the loftiest and who conformed his conduct to them excite such contempt? Why should the only statesman who had revealed the ability to formulate a plan which, put in operation, led to cessation of hostilities, who was the leader in formulating the terms of peace, and who insisted, and had his insistence allowed, that it should incorporate a covenant whose enforcement would make for perpetual peace, be hated and distrusted, vilified and traduced, thwarted and misrepresented by so many of his countrymen? What had he done, by commission or omission, that such treatment should be accorded him? I know the replies usually given to these questions by his depreciators and defamers. His nature is so imperious and his temper so tyrannical that he cannot co-operate with others; he neither solicits advice nor heeds counsel; he selects his coadjutors, aides and advisers from those whom he knows he can dominate; the passport to his favor is flattery, and intimacy with him is maintained only by the cement of agreement; he neither made preparation for war when there was ample time for doing so nor did he wage war until months after repeated provocations; he is hypocritical in having sought and accomplished election under the slogan, "He kept us out of war," and immediately on being elected, "thrusting" the country into war; he was "too proud to fight" in 1916 but keen to fight in 1917; he has hebephilia and popophobia; he is a Socialist masquerading as a Liberal; he is a Bolshevik beneath the mask of a Radical. In brief, he is temperamentally unfit to be President of the United States; intellectually and morally unfit to represent its people, and withal so completely under the dominion of an insatiate ambition to be the greatest man the world has ever known that every kindly feeling has been crowded from him.

Intelligent, educated men who have never seen him, who know little of his career save that he was president of Princeton University and Governor of the State of New Jersey and twice President of the United States elected by the Democratic Party, hate him as if he were a bitter, personal enemy, malign him as if he had injured their reputation for honesty and probity, calumniate him as though he were a man without character, and depreciate him as though his career were barren of signal accomplishment, and distrust his motives and procedures as though he had once, or many times, betrayed them. Men who are unable to give the smallest specificity to their dislike of him feel that they add to their stature by detracting from his accomplishments and defaming him.

Not one of them with whom I have talked has been able to state the facts of his disagreement and rupture with the trustees of Princeton University. My understanding was that he insisted that the University should submit to certain reforms that would make it democratic in reality as well as in name and that would enhance its pedagogical usefulness, and that there should not be a privileged class in the University, viz.: members of exclusive clubs whose portals were opened by money. He maintained that his training as an educator, his experience as an

administrator, his accomplishment as a student of history and as an interpreter of events, his experience with men, entitled him to a judgment concerning the needs of such an institution that should be given a hearing, and he contended that his recommendations, rather than those of trustees whose training had been largely in the world of affairs, be put in operation and at least be given a trial. He had the courage to jeopardize his very bread and butter, and that of his family, at a time in his life when his physical forces had reached their zenith rather than sacrifice what he believed to be a principle. The men who were permitted to take Woodrow Wilson's measure in that contest had no more idea of his stature than if they were blind. They would have laughed to scorn the idea that five years later the people of the United States would select him for their President. It was in this episode that his repute not to be able to do teamwork with his equals and his inferiors originated. Time has shown that it isn't a question at all of not being able to do teamwork. He cannot do his best work in an atmosphere of friction and dissent, and since it is as impossible for him to yield a position which he has taken, and which we shall assume he believes to be right, as it is impossible for the magnet to yield the needle that it has attracted, he adopts the wise course of not entering contests, save golf with his physician; and we must commend his judgment.

His cabinet meetings are a farce, so say they who have never attended one and who have never even spoken to a cabinet member. He selects pygmies for his cabinet and for his aides in order that they may proffer him no advice, resent no contradiction or protest indignities to their offices. This in face of the fact that he and his cabinet and his aides have conditioned the only miracle of modern times, namely, throwing a whole country, millions of whose people were adverse to war, into a bellicose state which was never before witnessed; conditioning and transporting men and material resources of that country across the Atlantic and into the fighting lines at a crucial moment, at a time when the backs of the Allies were against the wall, according to the statements of their own authorized spokesmen; who succeeded in engendering in the composite mind of the American people a determination to win the war that was more potent than men or weapons; who impregnated the composite soul of the Allies with a faith that the world would be an acceptable abode for the common people once the enemy was crushed that transcended in its intensity the faith of the Christian martyrs; who filled the heart of every statesman of the Allied nations with a hope and belief that there was within him the masterful mind that would conduct their legions to victory and salvation. If he and his pygmies accomplished this, I am one who maintains they are myrmidons and giants. But they didn't do it, his detractors say. The rejoinder to which is, "I know, a little bird did it!"

If we had entered the war after the sinking of the *Lusitania* when the wise men of the West say we should have gone in, countless lives and inestimable expenditures would have been spared. Where is the man in the United States of America today who has revealed the Jove-like mind that entitles him to make such sentient statement? When he is found, how can he possibly know? What delivery of thought, idea, conception, execution has he ever made that entitles him to be heard, not to say, believed? How can anyone possibly know what would have been the result of our entrance into the war at that time? If any one thing is responsible for America's efficiency in the war, it is that it had the American people fused into one man with one mind, determined to win the war. I am sure that I encountered nothing in the United States in my travel from the Atlantic to the Pacific and back again in the Spring of 1916 that made me believe that the people of our country wanted war, or that there could be developed in them at that time a sentiment which would make for such internal resistance of the people as they displayed in the Spring of 1917 and continued to display until November 11, 1918. I cannot speak from personal knowledge for I was not in the United States during the year of its war efficiency, but I am told that there was never a whisper of disloyalty or a syllable of disparagement of the President personally during that time. But many of those who were silent then are strident now. Their enforced silence

has enhanced the carrying power of their voices, and their clamor prevents the harmony that the world is seeking. They not only defame Wilson but they contend that the part we played in the war has been overestimated. It has been, but not by us. It has been evaluated by those whom it was our most sacred privilege to aid. They neither minimize our efforts nor underestimate our accomplishment. The British know that they were steadfast; the French realize that they were resolute; the Italians appreciate that they were brave. We know it, but that does not prevent us from realizing the magnitude of the role we played; and the man who was responsible for it is the man to whom the world, save a political party in the United States, gives thanks and expresses appreciation. His name is Woodrow Wilson. Americans do not boast of the part they played in winning the war, but they do encourage that which is far worse than boasting, lying about it, particularly when the motive for such perversion of truth is deprecation of their Chief Executive.

He is an idealist and a theorist. He is the kind of idealist who destroyed the Democratic machine in the State of New Jersey which had been the synonym for corruption in politics for a generation; the kind of idealist who put through the Underwood Tariff Bill which at one stroke did more to strangle the unnatural mother of privilege than any measure in the past twenty years; the kind of idealist who a few months ago when the transport system of the entire country threatened to be hopelessly paralyzed by reason of the determination of the railway magnates to refuse the demands of locomotive engineers that their working day should consist of eight hours, sent for representatives of the plutocrats and the proletariat and told what they were to do and when they were to do it, and the whole civilized world approved. He is the idealist who has done more to make our Government a republican government representative of the people and not of the party bosses than anyone in the memory of man. He is the idealist who is a scholar, a thinker, a statesman, a creator, an administrator and a man of vision. More than that, he is an efficiency expert in the realm of world-ordering.

His Secretary of War is a failure; his Secretary of State is a figurehead; his Secretary of Finance is his family, and so on *ad nauseam*.

I am not a competent judge of whether Mr. Baker has been a good Secretary of War or not, but I am sure that he is not so unfit as Simon Cameron was. No one has said of him: "Cameron is utterly ignorant and regardless of the course of things and probable result. Selfish and openly discourteous to the President. Obnoxious to the country. Incapable either of organizing details or conceiving and executing general plans." (Nicolay). President Wilson has never had to say of any of his cabinet what Lincoln said of Seward:

The point and pith of the Senators' complaint was that they charged him (Seward) if not with infidelity, with indifference, with want of earnestness in the war, with want of sympathy with the country, and especially with a too great ascendancy and control of the President and measures of administration. While they seemed to believe in my honesty, they also appeared to think that when I had in me any good purpose or intention, Seward tried to suck it out of me unperceived.

So far as I know, no one has characterized President Wilson's mentality as "painful imbecility," as Stanton characterized Lincoln a few months before the latter appointed him Secretary of War.

He has been accused of not surrounding himself with the ablest men of his party or of the country in the conduct of the affairs of the nation during the period when the country was emerging from the position of aloofness from world politics which it had maintained from the time Washington warned of the danger of "entangling foreign alliances." But it does not convince me that a man is not competent to do the job that the President has given him because his training has been as a stockbroker, and his activities on the bear side of the market. That is not the kind of training that one would give his son whom he wished to see become a statesman, but it occurs to me that the task entrusted to him may be one which a

statesman is not best fitted to handle. It may be a job that a man with the mentality and training and moral possessions that he selected could do better than anyone else.

What earnest of superior constructive and intellectual powers has any public man in the United States displayed that justifies self-constituted critics in saying that the men selected by President Wilson are not their peers? It is universally admitted that President Wilson has a more masterful and comprehensive grasp of politics in America, using that word in its conventional, everyday sense and meaning particularly a familiarity with bosses and the "machine," than any president ever had. No one denies his statesmanship. He is, therefore, a competent judge of who is best fitted to do the work which it is necessary to do in order that the programme which he has formulated for the benefit of humanity may be executed, and particularly that the yoke may be lifted from the neck of the oppressed nations and that another world calamity in the shape of war may be avoided. His choice of aides and representatives may not be acceptable to men who put party interests before public interests, who are willing to sacrifice world weal for worldly advancement, and who lash themselves into a frenzied state by repetition of the admonitions of Washington or Monroe. It does not detract from the glory of the Father of his Country, or from the lustre of great interpreters of national law, to say that the principles that they enunciated and the practices that they initiated a century ago are not necessarily those that should guide us now. It would be just as legitimate to say that physicians should follow the teachings of Hippocrates or Galen because the one was the father of medicine and the other its greatest expositor, as it would be to say that we must follow slavishly the teachings of Washington and Monroe.

That the Peace delegation did not contain men of the mental calibre of Mr. Root or Mr. Lodge, that the reservoirs of expert knowledge were not drained and taken to Paris, that the American Peace Commission as a whole was less sophisticated, less perceptive and apperceptive than that of Great Britain, let us say, is to be regretted, just as we regret the effects of some fallacious judgment or specious decision of our youth. There are ways of offsetting them, however, and in this particular instance Congress is the way. The President did not go beyond his prerogative in selecting the Peace Commission. The public elected him to make these selections, as well as to do other things. If the people do not want that such selection should be his privilege and power they have only to say it at the polls. The Eighteenth Amendment was not difficult of accomplishment. Perhaps time will show that Mr. Wilson "guessed right" oftener in the selection of his cabinet than any predecessor.

Mr. Josephus Daniels was the target of scorn and the butt of ridicule from the time he went into the cabinet until he began to make preparations for war, but the rumor has reached me that his efforts were fairly satisfactory to the hypercritical American public. The President's critics are jealous of the prodigious powers which an unauthorized representative of the Government has in the affairs of the country, and they do not understand why, if he is the paragon of virtue that his position seems to indicate he is, the President did not put him on the Commission. But again I say the President knows his limitations and the public has only recently discovered them.

He is silent and ungetatable. Silence has been considered a sign of strength in man since the days of Hammurabi, and the greater the man the more solitary he is. If Mr. Wilson were twice as great, even Mr. Tumulty would not be allowed to see him!

Wilson has been accused of pilfering his idea of the League of Nations from the Duke DeSully and from the Abbe of Saint Pierre. Enemies animated by malice and fired by envy have striven to show that the famous fourteen statements or principles were his only by the right of possession or enunciation; that he has resurrected the doctrines of Mazzini, dressed them up, and parades them as his own. It would be difficult to be patient with such critics if one did not know the history

of epoch-making events in the world's progress. In truth the public is resentful that it was not consulted. It is umbraged that it was not allowed to make suggestions. It is spiteful because it was treated with contempt. The public manifested the same quality of spleen toward Lincoln, only the quantity was greater. In brief, the public professes not to have any confidence in Mr. Wilson's wisdom, and this in face of the fact that up to date he has displayed more wisdom than all the Solons in America combined, and I can say this the more unprejudicedly as a Republican than I could if I were a member of the party that elected Mr. Wilson.

Mr. Wilson is disliked for emotional, not intellectual reasons. Although he has probably done more to engrave the graving upon the stone that will remove the iniquity of the land than any man who has ever lived, "we don't like" him. There must be some good reason for this other than envy, jealousy, and resentment, and I propose to inquire for these reasons in Mr. Wilson's emotional make-up.

Whether I "like" Mr. Wilson or not does not enter into it. I never knew Pascal or Voltaire or Benjamin Franklin, and still I am sure I could make a statement of their qualities and possessions that would elicit commendation from one who had known them. As a matter of fact, personal contact with men from whose activities the world dates epochs is not conducive to personal liking. I cannot fancy liking Rousseau. I am sure I should not have liked Voltaire. I can even understand why Lincoln was despised and scoffed at by his contemporaries. I am one of those who believe Mr. Wilson is a great man but I am not concerned to convince others of it. I am concerned alone to explain why he is not beloved of the people.

The esteem or disesteem in which Mr. Wilson is held in this country is due to his personality, and this does not seem to me to be enigmatic. He has the mind of a Jove but the heart of a batrachian. It is to the former that he owed his rise, it is the latter that conditioned his fall. If we were not satisfied to have such a man sail our Ship of State in smooth as well as in turbulent seas, in calm and in tornado, we had opportunity to drop him gracefully from the bridge in 1916. Although his possessions and deficits were not so universally known then as now, still they were generally recognized and widely discussed. Instead of dropping our pilot we re-elected him. This could only be construed by him as approval of his conduct. When he continued to display his inherent qualities he excited our ire. We called him names and neither forgave nor wished to forgive him.

Woodrow Wilson does not love his fellow men. He loves them in the abstract but not in the flesh. He is concerned with their fate, their destiny, their travail en masse, but the predicaments, perplexities and prostrations of the individual or groups of individuals make no appeal to him. He does not refresh his soul by bathing it daily in the milk of human kindness. He says with his lips that he loves his fellow-men, but there is no accompanying emotional glow, none of the somatic or spiritual accompaniments which are the normal ancillae of love's display.

Hence he does not respect their convictions when they are opposed to his own, he does not value their counsels. His determination to put things through in the way he has convinced himself they should be put through is not susceptible to change from influences that originate without his own mind.

He has made many false steps, but none of them so conditioned his fall from the exalted position the world had given to him as his determination to go to Paris and represent this country at the Peace Conference. If one may judge what the verdict of all the voters in this country would have been had the question of his going been submitted to them from the expressions of opinion of those one encounters in daily life, it would be no exaggeration to say that three-fourths of the voters would say he should not have gone. I think I may say truthfully that I never encountered a person who approved his decision. It is possible that his entourage or cabinet and counsellors did not contain a daring soul who volunteered such advice, but it is incredible that both they and the President did not sense the judgment of their countrymen as it was reflected in the newspapers. However,

it is likely that he would have gone even had he known that the majority of the voters of this country were opposed to it.

In contact with people he gives himself the air of listening with deference and indeed of being beholden to judgment and opinion, but in reality it is an artifice which he puts off when he returns to the dispensing center of the world and of the law just as he puts off his gloves and his hat. Nothing is so illustrative of this unwillingness to heed counsel emanating from authority and given wholly for his benefit as his conduct toward his physician during the trip around the country in September, 1919. The newspaper representatives who accompanied him say that he often had severe and protracted headache, was often nervous and irritable, sometimes dizzy, and always looked ill. These symptoms conjoined with the fact that for a long time he had high blood pressure were danger signals which no physician would dare neglect. It is legitimate to infer that his physician apprised him and counselled him accordingly. Despite it he persisted until nature exacted the penalty and by so doing jeopardized his own life and the equilibrium of affairs of the country. Indeed, obstinacy is one of his most conspicuous characteristics.

The President attempts to mask with facial urbanity and a smile in verbal contact with people and with the subjunctive mood in written contact his third most deforming defect of character, namely; his inability to enter into a contest of any sort in which there is strife without revealing his true nature, that is, his emotional frigidity, his lack of love for his fellow-men. They explain why he did not win out to a larger degree in Paris and why he did not win out with Congress. When he attempts to play this game his artficed civility, cordiality, amiability are so discordant with the real man that they become as offensive as affectations of manner or speech always are, and instead of placating the individual toward whom they are manifest, or facilitating a *modus vivendi*, they offend him and make rapport with him impossible.

Probably nothing would strike Mr. Wilson's family and intimates as so wholly untrue as the statement that he is cruel, yet nevertheless I feel convinced that there is much latent cruelty in his make-up, and every now and then he is powerless to inhibit it. He was undoubtedly wholly within his rights in dismissing Mr. Lansing from his cabinet, but the way he did it constituted the refinement of cruelty. He may have had a contempt for Lansing because the Secretary had not insisted on playing first fiddle in Mr. Wilson's orchestra, the part for which he was engaged, but that did not justify Mr. Wilson in flaying him publicly because he attempted to keep the orchestra together and tuned up, as it were, during Mr. Wilson's illness.

Selfishness is another conspicuous deforming trait of the President. He is more selfish than cruel. Undoubtedly his friends can point to many acts of generosity that deny the allegation. Some of the most selfish people in the world give freely of their counsel, money and time. Selfishness and miserliness are not interchangeable terms. Mr. Wilson is the apotheosis of selfishness because he puts his decisions and determinations above those of any or all others. It matters not who the others may be. Until someone comes forward to show that he has ever been known to yield his judgments and positions to those of others, I must hold to this view. He is ungenerous of sentiment and unfair by implication. Nothing better exemplifies his ungenerosity than his refusal to appear before the Senate or a committee of them previous to his return to Paris after his visit here and say to them that he had determined to incorporate all their suggestions in the Treaty and in the Covenant. He did incorporate them, but he did not give the Senate the satisfaction of telling them that he was going to do so or that the Instrument would be improved by so doing.

It has been said of him that he is the shrewdest politician who has been in the Presidential chair within the memory of man. That is a euphemistic way of saying he knows mob psychology and individual weakness, but his reputation in this respect has been injured by his failure to be generous and gracious to Congress.

The receptive side of his nature is neither sensitive nor intuitive, nor is his

reactive side productive or creative. He is merely ratiocinative and constructive, consciously excogitative and inventive. In other words he has talent, not genius. Genius does what it must, talent what it can. The man of genius does that which no one else can do. His work is the essential and unique expression of himself. He does it without being aware how he does it. It is as much an integral part of him as the pitch of his voice and his unconscious manner. He is conscious only of the throes of productive travail; of the antecedents of his creation he is ignorant.

Mr. Wilson is a man of measureless talent who has instructed himself to great purpose. He has made a careful review and digest of the world's history and he has attempted to survey the trackless forests and untrodden deserts of the future. From the activities in the former fields he has evolved a plan which he believes will make the latter a favorable place for the human race to display its activities and he has striven to put that plan into practice. He concedes that others have looked backward with as comprehensive an eye as his own; he grants that others have had visions of the future that are even more penetrating than his own; but *he* has had the opportunity to try out his plan and *they* have not, and he is unwilling to take them into partnership in the development of the claim that he has staked out. He cannot do it. It is one of his emotional limitations. Were he generous, kindly and humble it would be difficult to find his like in the flesh or in history. He must be reconciled to the frowns of his contemporaries, the disparagements of his fellows and the scorn of those who have been scorned by him. The world has always made the possessor of limitations pay the penalty. In his hour of hurt, if sensitiveness adequate to feel it is still vouchsafed him, he may assuage the pain with the knowledge that posterity will judge him by his intellectual possessions, not by his emotional deficit.

If we are not satisfied with his conduct we must do one of two things: We must either curtail the powers of future Presidents or we must select Presidents for their qualities of heart as well as mind. Perhaps future candidates for the Presidency should be submitted to psychological tests to determine their intellectual and emotional coefficients. Those who do not measure up to a certain standard shall be eliminated.

One of the most unsurmountable obstacles to advancement of an officer in the army or navy is an annotation of his record by a superior officer as "temperamentally unfit." From the day that appears underneath his pedigree there is scarcely any power that can advance him. It may be that Woodrow Wilson has been "temperamentally unfit" to be President of the United States, but for anyone to say that he has been intellectually unfit for that office is to utter an absurdity and an untruth. Had he been baptized in the waters of humility, had his parents or his pedagogues inoculated him with the vaccine of modesty, had he during the years of his spiritual growth come under the leavening influence of love of humanity, had he by taking thought been able to develop what are considered "human qualities," kindness, sympathy and reverence for others, had he included in his matutinal prayers, "Let me accomplish, not by might, nor by power, but by spirit," had he had Lincoln's heart and his own brain, he would be, not one of the greatest men that America had ever produced, but the greatest. As it is, his emotional limitations have thwarted his career. The American people speak of this as his fault. It is in reality his misfortune. We laugh at the child who cries when she finds that her doll with outward appearance of pulchritude is filled with sawdust, but we wail when we find our gods are only human, and we resent it when our humans err.

Woodrow Wilson should consider himself particularly fortunate—for he owes his life to it—that he lives in the twentieth century. It is only a century or two ago, in reality, that they gave up burning at the stake prophets and reformers, and it is only a few decades ago that they allowed them to remain in their native land or even to visit it. Critics and self-constituted judges of Mr. Wilson's conduct will continue to pour their vials of wrath upon his head and purge themselves of their contempt for him, but these are the fertilizers of his intellectual stature.

—Joseph Collins.

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Dr. J. F. KUHN, Secretary.

OKLAHOMA CITY

DEATH REPORTS.

Dr. D. D. McHenry.

Mrs. C., age 48, was brought to the hospital on April 13, complaining of running ear and mental symptoms. Her trouble began after she had influenza four months ago. She was mentally clouded, pulse 110, temp. 103, W. B. C., 14,800, poly's. 89.

On the following day she had a W. B. C. of 25,000 with 82 poly's. She was very restless and showed marked rigidity of the neck and a positive Kernig's sign. Lumbar puncture showed a cloudy fluid under pressure with a cell count of 2,000, the majority of which were poly s. Her temperature reached 104.5 and her pulse 120. Smear from the ear contained streptococci and pneumococci.

One day later her temperature reached 105, she went into a state of coma and died.

Post Mortem Examination: Mastoid cells and the middle and internal ear exposed. Large amount of cream-like purulent exudate in the large cell just posterior to the root of the zygoma, and superior and external to the antrum. Mastoid antrum and zygomatic cells filled with pus. The surrounding bone is soft and spongy and the labyrinth is involved in this suppurative condition.

The subarachnoid space is filled with a purulent exudate extending along the lines of the meningeal vessels. There is a cavity 15 x 20 m.m. located in relation to the superior sagittal sinus just posterior to the bregma. Purulent exudate in the internal auditory meatus and pus in the arachnoid cisterns at the base of the brain.

Pathological Diagnosis: Chronic otitis media, suppurative mastoiditis, suppurative meningitis.

Discussion. Dr. J. W. Riley: No doubt many cases of encephalitis and brain abscess go down as sinus involvement when there is no autopsy. Purulent material makes its entrance through the attic, through the dura and along the veins and artery sheath. It is not necessary for the rupture of the tympanum. A running ear is a source of great danger and must be treated early. As I look back, I see three cases of chronic running ear that should have had more urgent treatment.

R. M. Howard: Many people have running ears and put off going to the doctor for months or even years. The specialist is not to blame. He doesn't have a chance. They don't consult him until they have more grave symptoms. The insurance companies recognize the danger when they turn down an applicant with a chronic discharging ear.

Dr. E. P. Allen. *Meningitis (Pneumococcic).*

Mr. P., laborer, age 45. Entered the hospital March 16, 1920, complaining of discharging ear and pain in the back of the neck.

Present illness: Influenza four months ago. Was in bed ten days. Has had intermittent discharge from the ear ever since.

For two months before entering the hospital he complained of severe basal and frontal headache for which he had been taking chiropractic treatments. Fifteen hours before entering the hospital he had a more severe attack of headache accompanied by nausea and vomiting and after trying an osteopath with no result he came in for treatment.

Physical Examination: Well developed and well nourished man of 45 in semi-delirious condition tossing and rolling in bed. Purulent discharge from right

ear. Definite rigidity of neck but no opisthotonus. Kernig and Babinski reflexes positive. Patella reflexes absent. Tongue coated, lips dry, sordes on the teeth. Temp. 102, resp. 30, pulse 90, B. P. 170-75. Aortic regurgitation.

Spinal puncture done immediately showed a turbid fluid not under pressure. Cell count 6,375. Albumin strongly positive. Many pus cells, pneumococci on culture. Routine blood examination showed W. B. C. 20,500 with 90 per cent poly's. Urine negative.

Diagnosis: Pneumococcic Meningitis.

Treatment: Ice cap to the head. Morphin 1-6 p.r.n. for pain. Bromides at intervals between doses of morphin. Gastric lavage with sodium bicarbonate, $1\frac{1}{2}$ oz. magnesium sulphate left in the stomach. Hypodermoclysis of saline, anti-pneumococcic serum intravenously, three hours later 20 c.c. intraspinaly and 30 c.c. intravenously. Eight hours later 25 c.c. was given in the spinal canal and 25 c.c. in the vein. Six hours later 50 c.c. intravenously.

Spinal puncture on March 17, 1920, showed a fluid under pressure with a cell count of 6,420.

Patient grew progressively worse and died 48 hours after entering the hospital.

Post mortem examination revealed the following: 1. Suppurative meningitis of pneumococcic origin. 2. Mild passive congestion and cloudy swelling of the liver. 3. Congestion and pigmentation of the spleen. 4. Acute parenchymatous nephritis. 5. Beginning aortic valvular endocarditis.

Dr. Horace Reed. *Peritonitis. Acute suppurative, following appendicitis.*

This patient, a boy of 16 years of age, entered the hospital March 22, 1920 in the morning. He stated that he first took sick three days before with pain in abdomen, nausea and fever. On the second day of illness his abdomen became swollen and hard and this condition persisted until he came to the hospital. He was brought on a stretcher lying flat, and had the appearance of being a very sick boy. Rapid pulse, dry tongue and moderately distended abdomen which was board-like all over. Blood count 15,000, P. 84. He was at once put in the Fowler position and as the region of the appendix was more sensitive than other parts of the abdomen it was thought best to place a drain in this place. This was done under local anesthesia with the patient in Fowler position in bed in his room.

Within twenty-four hours condition was markedly improved. In 48 hours his blood count was 9,600, P. 72. Treatment had been postural and the withholding of all food up to this time. He continued to improve and in the course of time he was allowed to get out of bed, into a wheel chair and the special nurse was dismissed.

On April 4, 1920, he did not rest well at night according to the nurse's note. The house surgeon, while doing the dressing saw that the abdomen was somewhat distended, concluded that a bowel evacuation was needed and ordered castor oil. Temperature which had been normal was 99 on this morning. I examined him and it was found that he had a distention in lower abdomen fluctuation. His blood count was 11,700, P. 75. On April 5, 1920, he was taken to the operating room and a large abscess which filled the whole of the pelvis was evacuated. Following this the patient continued to do well for a week or more. On April 13, 1920, a large enterolith was discharged from the first wound. About this time the patient first complained of peristaltic pains. They bothered him very little except when he tried to sleep. These pains gradually increased in severity but there was no definite points or evidence of location of obstruction. He continued to pass flatus and bowels continued to move.

On the morning of April 19th his temperature was 98 and pulse 88. By noon the temperature was 100 and pulse 120. Blood count at this time was 14,900, P. 91. The physical signs were those of obstruction plus spreading peritonitis. Under light anesthesia we explored with the finger through the old wounds but located no pus. A few pockets of bloody fluid, foul smelling, were evacuated.

His temperature kept rising and reached 107 in the early morning of the 21st, when he died.

Autopsy Report: Almost complete absence of subcutaneous fat. Omentum bound down to the peritoneum by cob-web like bands and in many places bound to the intestines by dense adhesions. The abdomen contains considerable straw colored fluid containing granular material. The loops of small intestine are adherent to each other; and in the caecum and in the colon, near the hepatic flexure, there are numerous perforations varying in size from a pin head to 5 m.m. in diameter.

In the upper end of the jejunum there is an area about eight perforations about 5 m.m. in diameter.

Summary: (1) Ulcerative perforation of the colon and jejunum. (2) Recent and old abdominal adhesions. (3, Obstructive kink in the ileum and jejunum. (4) Chronic appendicitis. (5) Fistula between the bowel and surgical wound. (6) Perihepatitis. (7) Perisplenitis.

At the time of the second operation the pus was thick and tenacious and seemed well walled off and a little Dakin solution was gently introduced in order to clean out the cavity. We have been taught that it may be used in the abdomen where the abscess is walled off but the numerous recent adhesions found at autopsy will lead me to proceed more carefully in the future.

Discussion.

Dr. R. M. Howard: Dakin solution that leaks into the peritoneal cavity is sure to cause trouble. It is very good in an abscess if there is no connection with the abdominal cavity but the walls are so weak there is great danger of the solution breaking through. Dakin solution injected into the peritoneal cavity of a dog will dissolve the omentum in six to eight hours, leaving the exposed blood vessels. In many cases the vessels had ruptured and there was bloody exudate in the abdomen.

CASE REPORTS.

Dr. George A. LaMotte. *Lung Abscess.*

Mr. B., age 50, came to the hospital complaining of loss in weight, sweats, and cough with purulent sputum. He had pneumonia following influenza five months ago. The present trouble followed the pneumonia. He has had no hemoptysis and no pain.

Physical Examination. Undernourished man of 50. Coughs most of the time with expectoration of large amounts of purulent sputum. Chest expansion limited in the right lower base. Dulness at right apex and all along the posterior surface except area at base that seems tympanitic. Large bubbling rales below the fourth rib and amphoric breathing over the area corresponding to the tympany. Blood count showed R. B. C. 4,000,000. W. B. C. 11,400, P. 54. Urine negative. Pulse 92. Resp. 35. Temp. 99.

Sputum examination showed staphylococci, streptococci. Gram positive and negative bacilli and elastic tissue but no tubercle bacilli.

Roentgen Report. Left chest negative except heavy shadows at the hilus. The upper half of the right chest is less radiant than normal. In the lower outer half extending from the sixth rib posteriorly to the diaphragm is a well outlined area containing fluid. Under the screen the level of the fluid changes as the position of the patient changes.

Conclusion. Lung abscess connecting with a bronchus. The diagnosis of lung abscess was made because (1) of the history of lung infection followed by loss in weight, sweats and the expectoration of large quantities of purulent sputum containing elastic tissue and no tubercle bacilli; (2) because of a tympanitic area in the lung, surrounded by an area of dulness, over which there is amphoric breath-

ing and bubbling rales. The acuteness of the symptoms and the absence of tubercle bacilli in the sputum help to exclude tuberculosis. Bronch ectasis is a chronic condition with less general reaction.

Lung Abscess May Follow:

1. Trauma with infection, especially with foreign bodies.
2. Abscess of adjacent organs or burrowing of pus, e. g. from pleura, pericardium or peritoneal cavity, and in this event the pus does not show elastic tissue.
3. Metastasis in septicemia, usually multiple and coalescing and often undiagnosed because the septicemia syndrome overshadows this one in its terminal features.
4. When an old caseous tubercular cavity becomes a culture medium for mixed infection.
5. Previous infection in the lung such as pneumonia, influenza and infectious materials following throat operations. This seemed to be the etiologica factor in the present case.

Treatment. After a definite diagnosis can be made acute cases should be given the advantage of proper hygienic support until the individual's resistance can be built up to the maximum under existing conditions, checking your own opinion by repeated examination and differential blood counts. Cases that survive this acute stage and where the abscess is primarily pulmonary are now surgical instead of medical.

The technique followed by Dr. Howard and myself in this case was resection of rib under novocaine. The pleura being adherent, we immediately located the abscess with a large hypodermic needle and left the same in position as a guide for making a larger opening through the lung with electro-cautery. This opening was packed with several fingers of a rubber glove with the tips cut off. At the next dressing they were removed and a drainage tube put in.

The patient is able to go about his house and do light exercise, although there is a drain in his side.

I fully expect a favorable ultimate termination because (1) the lung is capable of producing large quantities of fibrous tissue to fill the space, and (2) the abscess followed influenzal pneumonia and per se is the principal existing pathology.

Dr. J. F. Messenbaugh. *Inguinal Adeno-Carcinoma.*

Mr. S., farmer, age 30. Came to the hospital on April 26, 1920, complaining of a painful tumor in the left inguinal region. He first noticed it after an injury three years ago. It remained a small painless nodule until a few weeks ago when it began to grow and became painful. He is in good health otherwise.

His family history is interesting when we consider heredity an etiological factor in malignancy: His mother died of "tumor" causing intestinal obstruction. One sister died of sarcoma at the age of 30. Two uncles died of "cancer."

Physical examination shows a well developed, well-nourished man of 33. General examination negative except for a hard non-inflammatory mass in the left inguinal region extending below and parallel to Poupart's ligament and about 3 x 5 c.m. in size. No evidence of glandular enlargement any where else. Blood and urine negative.

This mass was dissected out and the pathologist's report was a adeno-carcinoma. The wound healed very promptly, but there is a hard indurated feeling to the tissues in that region.

I present this case at the beginning that we may follow it through the x-ray and radium treatments. He was referred to Drs. Lain and Roland and active treatment has been started.

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Failure to receive the Journal should call for immediate notification of the editor, 508 Barnes Building, Muskogee, Okla.

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A. will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

EDITORIAL**UNRELIABLE AND FAKE ARSENICALS IN TREATMENT OF SYPHILIS.**

The Journal has heretofore called attention to exploitation of certain palpably impotent, pitifully inefficient and dangerous alleged remedies or "short cuts," and so-called improvements over salvarsan and similar groups of arsenic preparations known by years of experience to be reliable. Especial note has been made of the farcical claims made for "Proteogens," none of which were based on real scientific study and conclusion after such hy unbiased, disinterested investigators. The tendency, too, of a small minority of physicians to imperil the lives of their trusting charges who could not differentiate and sense the danger, was noted.

We are more than privileged to reproduce a circular from the Surgeon General, U. S. Public Health Service, Dr. H. S. Cumming, on this matter, and concur in the warning issued. Physicians who persist in placing their patients in peril by administration of untried preparations, only lauded by their promoters, should especially note that such "experiments" at their hands are unnecessary; the Bureau provides ample experimental facilities without such dangerous practices being indulged in by physicians illy equipped for such work. When the Public Health Service issues its findings they may be safely relied upon.—Editor.

USE OF ARSENIC PREPARATIONS IN TREATMENT OF SYPHILIS.

Medical Officers, U. S. Public Health Service and others concerned:

Your attention is invited to the extensive exploitation through advertisements in professional journals and otherwise of various arsenic preparations which are not related to the arsphenamine group. The preparations referred to are sold with claims in regard to their value in the treatment of syphilis, which are unwarranted.

In the opinion of this office it is in the interest of all concerned that the subcutaneous, intramuscular or intravenous use of arsenic in the treatment of syphilis be confined to preparations of the arsphenamine group as these agents are of

established value and are produced under the regulations of the Public Health Service. The following firms are now licensed for the manufacture of arsphenamine and neo-arsphenamine:

Dermatological Research Laboratories, 1720 Lombard Street, Philadelphia, Pa.

H. A. Metz Laboratories, 122 Hudson Street, New York, N. Y.

Diarsenol Co., Inc., Buffalo N. Y.

Takamine Laboratories Clifton, N. J.

The Lowy Laboratory, of Newark N. J., has been granted a license to prepare a stable solution of arsphenamine.

It is not the desire of the Bureau to limit clinicians in the choice of agents of recognized worth but in the case of arsenic preparations, not members of the arsphenamine group, the available evidence indicates that their routine use is inadvisable in the treatment of syphilis. If it is desired to use any of these preparations in a purely experimental way previous authority from the Bureau should be secured. Applications for this authority should be accompanied by a statement as to the composition of the drug including the structural formula and the reason for its use. All information available on the value of the preparation should be forwarded.

Receipt of this circular should be acknowledged and marked "*I. D. Division.*"

H. S. Cumming,

Surgeon General.

THE HOMEOPATH FALLS NOT FOR FOOLISHNESS.

(The following editorial from the Journal of the American Institute of Homeopathy, May, 1920, is worthy of reproduction as indicating the trend of thought of students upon the "Fakes" of the hour. No doubt the "League for Medical Freedom" will be duly shocked at this supposed desertion from their ranks—of a force they never really possessed.—Editor.)

"FORBID THE BANNS."

There lies before us a reprint from the April issue of *Physical Culture Education* under the title, "Shall We Have Medical Freedom?" extending an invitation to seven groups of drugless practitioners and including "homeopaths." This is probably upon the supposition that they will find malcontents who will be willing to vote from the American Institute of Homeopathy one thousand dollars to "form plans for a political union of our forces against allopathic domination, governmental and otherwise."

Having followed rather carefully in past years the career of this organization, or at least some of its promoters, we are unalterably opposed to any such line-up for homeopathic physicians. Nothing will drive the majority of thoughtful practitioners of homeotherapy quicker into the political organization of the dominant ranks than the implication that we stand for all the fallacies of the medical self-styled groups of "medical freedom."

The writer of the reprint comments on "the present control of all governmental policies concerned with the health of the people by the representatives of allopathic medicine." Dr. William A. Evans, of national reputation as a former health commissioner of Chicago, in a recent public address, remarked that representatives from graduates of homeopathic schools had more than their numerical share of public health positions. To be explicit, the reader is reminded that Dr. Geo. H. Simmons of the American Medical Association is a graduate of a homeopathic medical school, Dr. C. St. Clair Drake of the Illinois State Board of Health, Dr. Royal S. Copeland, Commissioner of Health of New York, as was Dr. Eugene H. Porter, Commissioner of Health of the State of New York.

Again, the writer comments upon "a time when the practice of medicine is ceasing to be the practice of medicine, that is to say, when the medical practice is rapidly abandoning drug medication." We may be using less medicine than for-

merly, but if homeopathic therapy stands for anything, it stands for a specialty in drug therapeutics. Why join the drugless ranks? True, we are not in accord with much of the drug practice of the dominant school, and we are perfectly willing to fight when our rights to select a remedy are threatened. On the other hand, we hold the art of healing in such high regard that we would recommend that every practitioner who attends the sick should be grounded in the fundamentals which have to do with the body, its ailments and mode of recuperation; namely, anatomy, physiology, chemistry, physics, pathology, psychology, materia medica.—S. M. H.

CANCER IS STILL KING.

Despite feverish study and scientific attempt, cancer still holds the center of the medical stage as the unconquered destroyer. Commissions and committees of students, with slight exception, futilely face the subject. Physicians of ten or more years' experience, in spite of fairly crystallized policy of action toward prevention, are not yet rid of the relatively large number who ignore the early danger signs presented by the victim until any treatment is met with failure; of course, their neglect is not confined to cancer, their attitude of slurring over the patient's problem is identical with all other things they attempt. Fortunately their field for destruction is limited in much of their work by the tendency of their charges to heal themselves, via, "let nature do the work." Not so with cancer—here recovery means timely, sufficient action; so we still have the victim of poor judgment among ourselves.

Cancer known as a surgical problem, if we except radium, x-ray, now, and always probably will demand early diagnosis from the family physician. Our most efficient surgeons with perfect technic, see their work set at naught by delay in diagnosis. Hoffman,¹ analyzing all obtainable statistics, concluded that of deaths at ages 45 and over, 9.6 of men, 18.6 of females, resulted from malignant disease; that 80,000 deaths annually occurred in Continental U. S. from cancer. Most significant is his conclusion that cancer deaths increased approximately 2.5 annually.

Passing over all theories as to etiology, admitting that cause is still unknown, the family physician must know that neglected irritations are to be considered a menace to his clientele. The lump in the breast, everted cervical lacerations, benign growth of skin and mucous membrane, gall stones, gastric ulcer, a legion of other abnormalities have been known to the surgeon to exist in a remarkably large per cent of the cancer patients calling to them for relief by surgery. Early eradication of these primary simple matters should reduce cancer mortality. It cannot be reduced by late surgery, it may be by early diagnosis and early surgery.

THE NEW ORLEANS MEETING.

Lack of space in June *Journal* prohibited note of this meeting.

Opinions varied among "those present," depending on the part discussed.

The sections were well up to the usual high standard, attendance was high, the location in mind. The commercial exhibits, crowded for space, were very successful. The scientific exhibits attracted many visitors, and nothing but praise was accorded them.

The Abbott Co., Chicago, housed their large offering in a tent on the lawn, moving pictures illustrating the surgical uses of Dichloramine-T. This exhibit attracted more visitors than any other.

Very proper criticism was made of the manner in which the entertainments were conducted. The local New Orleans talent appropriating a little more than hospitality warranted, resulting in crowding out prospective attendants.

¹Mortality from Cancer Throughout the World, Frederick L. Hoffman, Prudential Press—1915.

The House of Delegates transacted a great deal of business, opposition to social insurance being strongly condemned. Operation of Federal Narcotic Control law and regulations netted a comprehensive resolution looking to practical changes.

Hotels, boarding houses and "stalls" to which visitors were assigned came in for more criticism than all other phases combined. Opinion that hook worm infected everything from managers to bell-hops prevailed; misinformation too, and neglect of guests was the order of the day—a full decade or more will elapse before the Creole City will again be selected as a meeting place.

PERSONAL AND GENERAL NEWS

- Dr. J. E. Hollis**, Snyder, is moving to Altus.
- Dr. W. F. Griffin**, Greenfield, has moved to Watonga.
- Dr. F. H. Clark**, El Reno, has moved to Oklahoma City.
- Dr. J. W. Kerley**, of Cordell, is doing special work in New York.
- Dr. L. E. Emanuel**, Chickasha, is doing special work in New York.
- Dr. C. M. Bloss**, Okemah, took a fishing trip to Gulf points in June.
- Dr. J. M. Salters**, Sulphur, will move to Florida in the near future.
- Dr. R. T. Castleberry**, Ada, has been doing special work in Kansas City.
- Dr. L. J. Moorman**, Oklahoma City, is visiting eastern cities as a vacation variation.
- Dr. C. W. Heitzman**, Muskogee, will spend the month of August visiting eastern points.
- Dr. Dewitt Stone**, Sayre, and **Mrs. Lena Castleberry**, Elk City, were married at Sayre June 5th.
- Dr. R. H. Harper**, Afton, visited the Chicago clinics in time to take in the Republican Pow Wow.
- Muskogee's City Council** announces that erection of the City Hospital will be postponed for a year.
- Dr. R. F. Cannon**, Miami, has returned from an extended stay in New York where he did special work.
- Dr. Lee W. Cotton**, Enid, has announced his candidacy for the State Senate on the Democratic ticket.
- Dr. B. J. Plunkett**, Duncan, was seriously injured at that city when he was knocked down by an automobile.
- Dr. J. C. Hubbard**, U. S. Public Health Service, Panama Canal Zone, visited relatives in Edmond, Oklahoma, in May.
- Dr. I. W. Bollinger**, Henryetta, and **Dr. Fred Watson**, Okmulgee, are doing special surgical work in Chicago and Rochester.
- Dr. T. F. Harrison**, Wewoka, accompanied by his family, is motoring through northern Arkansas and Missouri points for his vacation.
- Dr. J. E. Farber**, of Cordell, was in Juarez, Mexico, early in May, where he saw the rebel forces take possession of the city of Juarez.
- Drs. John W. Riley and H. Coulter Todd**, Oklahoma City, delivered addresses at the graduation ceremonies of St. Anthony's Nursing Class.
- Dr. C. Cantrell**, Healdton, was seriously injured when his car turned over in that city. Three members of his family also sustained injuries.
- Dr. E. E. Waggoner**, Pawnee, sustained a fracture of bones of the leg while making a run for second base during a Fats vs. Leans baseball game.
- Dr. and Mrs. C. J. Clark**, Cherokee, announce the marriage of their daughter, **Hallie Hoyt**, to **Mr. Lawrence Kenneth Forde**, at Oklahoma City, June third.
- Dr. A. G. Hunt**, Howe, and **Miss Bessie Taylor**, Cameron, were married May 16th. **Mrs. Hunt** was formerly a special worker of the Baptist organization in Oklahoma.
- The United States Public Health Service** has announced that Muskogee will be made one of the clinical centers for treatment of disabled beneficiaries of the War Insurance Act.
- Dr. C. L. Reeder**, Tulsa, Director of the Venereal Disease Control Clinic, has initiated steps toward the establishment of an isolation hospital for the treatment of venereal cases.
- Dr. R. O. Early**, Ardmore, has announced his removal to Oklahoma City, July first. The first intimation **Dr. Early** gave of his proposed move was made on resigning as President of Ardmore Rotary Club.

Dr. C. D. Ferguson, Oklahoma City, a brother of Dr. E. S. Ferguson, died at Corpus Christi, Texas, after an illness of several years June 11th. His remains were interred at St. Thomas, Ontario, the place of his birth.

Dr. H. H. Cloudman, Medical Inspector, Oklahoma City schools, is asking for the installation of drinking fountains for all the schools, dental chairs in the Junior High School clinic, open air rooms and increase in the force of medical inspectors.

Drs. J. M. Lee and Harold Jackson, Tulsa, are under arrest charged with practicing medicine without license. The warrants were drawn on complaint of Drs. G. A. Wall, President, Tulsa County Society, and C. H. Ball, Councilor of the District.

Dr. Elizabeth Elva Lehmer, Oklahoma City, has the distinction of being the first woman ever granted the degree of Doctor of Medicine in Oklahoma. She graduated with the class of 1920, and will serve an internship at St. Anthony's Hospital.

Dr. Joseph T. Antony, Ardmore, and Miss Evelyn Whitehead, Springfield, Mo., were married in that city in April. Miss Whitehead, was a nurse in Southwestern Hospital, Ardmore, and the doctor kept their secret from friends until she had completed her course in that institution.

The Idabel News has discovered that for many years past patients have been taken to "out-of-town sanitariums" for treatment; also noting that their community is not lacking in competent medical men, it voices the wonder as to how long the condition will remain in that unsatisfactory state.

Physicians moving: Dr. Tom Lowry, Secretary, Oklahoma County Society, reports the following transfers to his jurisdiction: Drs. S. P. Strother, from Jackson County; F. H. Clark, from Canadian; Claud S. Chambers, from Caddo; T. W. Brewer, from Ottawa, and H. M. Williams from Wellston.

Dr. C. G. Spears, Altus, health officer, has decided to adopt the effective system of placarding stores and houses with good, bad and indifferent cards. It will produce results, but the doctor will not be liked by some of the stiff-necked, good citizens who prefer to live in the blissful state of their fathers.

Dr. J. T. Martin, Superintendent of Health, Oklahoma City, called a meeting June 12th, of city county and state health officers to consider means to improve sanitary conditions of soft drink and soda fountain operators. Regulations will be explained to the dealers and their co-operation invited, failing in which swift certain prosecution will follow.

Dr. S. J. Bradfield, Bartlesville, was honored at the Tulsa meeting of the Rainbow Division, June 19th, by election as honorary president of the organization. Dr. Bradfield went overseas with the Tulsa Ambulance Company. At this meeting a stinging resolution was adopted branding Senator Gore as pro-German, un-American and unpatriotic and condemning his war record in the Senate.

Major Howell B. Gwin, M. C., U. S. A., has received his discharge from the army and returns to his home in Tulsa. The *Journal* is in receipt of a Flag Day address of Major Gwin, delivered to the officers and men of the Third U. S. Infantry, the oldest infantry organization of the army, at Eagle Pass, Texas. The address is a classic, breathing sentiments of patriotism appropriate to the occasion.

Dr. S. P. Ross, Ada, experienced the unusual when he drove a badly injured boy to his home. On entering the house, preparing to examine the case, an older brother stepped up, saying, "Get out, Doctor, we don't need you, we do not believe in doctors. We believe in divine healing." The man then started to pray and the doctor "got out"; with the determination, however, to have the family prosecuted to the limit if the boy suffered from the neglect.

The Metropolitan Life announces that in 1919 it paid more for deaths on their policy holders from automobile accidents than on account of typhoid fever. That is very good; why not add that as a menacing cause of death and injury to the already long line of nomenclature? Why not make this a matter of serious consideration at the hands of oncoming legislatures? It should not be forgotten that only a short time ago we listed just one half of the deaths of our members for the year as due to automobile accidents.

Dr. D. Armstrong, Durant, is the last of our members to experience being haled into court to the tune of thousands of dollars sought by the plaintiff. The court saw differently, telling the avaricious plaintiff he had nothing coming, not even a leg upon which to stand; while the doctor did not have to offer any defense. However, satisfactory as the outcome seems, some injury remains and there is no means by which the lawyer who thought he might have a case or his jaundiced client can be made to rectify their wrong.

RESOLUTION.

Adopted by the Pittsburg County Medical Society, June 4, 1920, relative to status of Federal Narcotic Legislation.

Whereas: The Harrison Narcotic Law has in its enforcement become very annoying to physicians, and

Whereas: Its method of enforcement materially interferes with, and impedes the legitimate practice of medicine, and

Whereas: The Physician is subjected to ugly insinuations, intimidations and threats by the inspectors, who many times are not even doctors, and

Whereas: The original intent of the law has absolutely failed in its purpose; that, there are by far more drug addicts now than ever before, that the only effect of this law now is to intimidate the legitimate physician and druggist; therefore be it

Resolved, by the Pittsburg County Medical Society:

First: That the method of enforcement of the Anti-Narcotic Law be condemned, especially as to the character of inspecting officers and their free or rather loose interpretation of the law and overbearing methods with the legally practicing physicians.

The enforcement at this time seems to be a failure as is evidenced by the many young people who are now developing the habit, being able to purchase freely from boot-leggers.

Second: That aside from interfering with legitimate practice of medicine, the doctors and druggists are burdened with an unnecessary amount of red tape, in the form of record keeping, therefore we suggest its repeal or radical amendment.

Third: That a copy of these resolutions be sent to Hubert L. Bolen, Internal Revenue Collector, to each of our Congressmen and Senators, and to the State Medical Journal, with the request that it be published.

Fourth: That we heartily concur in the recommendations of the committee on Narcotic Legislation of the American Medical Association, which is as follows:

RECOMMENDATIONS.

We therefore recommend:

1. That the ambulatory treatment of drug addiction, as far as it relates to prescribing and dispensing of narcotic drugs to addicts for self-administration at their convenience, be emphatically condemned.

2. That heroin be eliminated from all medical preparation, and that it should not be administered, prescribed or dispensed; and that the importation, manufacture and sale of heroin should be prohibited in the United States.

3. That the bills introduced by Senator France, No. 2785, and Representative Rainey, No. 11778, to provide aid from the United States for the several states in prevention and control of drug addiction and the care and treatment of drug addicts, be approved, and that Senator France and Representative Rainey be so notified.

4. In view of the statement in a government report that about 90 per cent of the amount of narcotic drugs entered for consumption is used for other than medical purposes, the Treasury Department is respectfully urged to continue to study and report on the narcotic drug situation, including the question of government control of these drugs.

5. That the Bureau of Public Health Service of the Treasury Department be respectfully requested to continue the compilation of state laws and regulations relating to habit-forming drugs and bring them up to date.

The above resolution was passed by the Pittsburg County Medical Society at their regular meeting June 4, 1920.

MISCELLANEOUS

CARCINOMA OF THE EAR.

From a study of seventeen cases of carcinoma of the ear, R. L. Sutton, Kansas City, Mo. (*Journal A. M. A.*, Jan 10, 1920), says that while to the uninitiated successful treatment may seem easy in cancer of the ear, a little experience is unfavorable to such optimism. The difficulty is largely due to the close junction of the skin and cartilage, even if the latter escapes direct cancerous involvement. The Chronic inflammatory changes together with poor blood supply prevent prompt healing. All of the author's patients were men, ranging from 28 to 81 years of age. The five cases microscopically studied were of the basal-cell type, differing a little from that in other parts of the body. In thirteen the growths had developed from seborrheic keratoses, and in nearly every case there was history of injury. In all cases the injury was above the floor of the external auditory meatus, and in no case was the lobe primarily involved. Eleven of the patients, at one time or another, had suffered from frost-bite. The case histories were very similar. A small superficial ulcer, slow in healing, at some point in the helix was first noticed, and if the scab was not scratched off it was accidentally rubbed off by a rough towel, and a little keratosis developed after apparent healing. A large percentage of them then became malignant. "The subjective symptoms were at first comparatively slight, and consisted of itching and burning of variable degree, easily allayed by a mild antipruritic. Later, as the carcinoma developed, and the deeper structures were invaded, the patients frequently complained of throbbing, penetrating pain, which often involved the entire side of the head, and which only narcotics would relieve." In growths of the prickle-cell type, early and radical excision is the safest course. The basal-cell type is less serious and more chance can be given for cosmetic considerations. The ears should be protected from cold as a prophylactic, and proper surgical attention given to any slight lacerating wound of the ear. Seborrheic keratoses, which are often the precursors of cancer, can be sometimes successfully combated by a mild keratolytic such as salicylic acid ointment (10 per cent). Carbon dioxide snow is a valuable remedy in some cases but may do harm, but the actual cautery is better in most advanced cases. Unfortunately, however, discomfort may follow from lesions produced in adjoining tissues. Fulguration is painful and, as ordinarily practiced, unreliable. Arsenous oxid is probably

the best chemical caustic, but is open to the same objections as the cautery. Before the cartilage is involved many cases respond satisfactorily to the roentgen ray and especially well to radium. Only the intensive ray treatment should be used. In basal-cell cancer of the ear, intensive reactions from radium treatment are not generally wanted and should be avoided in the superficial cases. When the cartilage is involved both radium and roentgen ray fail, and prompt excision is the safest method. The article is illustrated.

MEDICAL ETHICS.

Almost any month, in some section of the country, questions arise as to matters of ethics in the various professions. And just as there are lawyers occasionally who stretch the ethical code too far, so also there are some doctors who let people suffer rather than go contrary to some arbitrary conception of medical ethics.

A case of the latter kind occurred recently in Oklahoma City. A child, who was ill, became suddenly worse at night. An effort was made to reach the physician who had charge of the case, but he could not be located. Another doctor was then requested to hurry to the child's bedside. The doctor asked if some other physician had the case. An affirmative answer was given, but it was explained that the attending physician could not be reached. The doctor refused to come, stating that since another physician had the case it would not be ethical to answer the call. A third physician, however, attended the child when told of the circumstances and the condition of the patient.

It is doubtful if there is really anything in the ethics of the medical profession which would require a physician to let a child die without giving it medical aid, simply because some other doctor had previously been given the case. If there is anything like that in medical ethics, it is clear that any such provision, written or unwritten, should be eliminated.

When men and women enter the medical profession, they immediately assume certain duties toward the public which they cannot shirk. Their profession is quasi-public in nature. It is their duty to save lives and any doctor man or woman, who refuses to attend a sick person on the ground that some other physician, who cannot be reached, has previously had charge of the case, is guilty of very reprehensible conduct to say the least.—*Oklahoman*, June 9, 1920.

The *Oklahoman* is to be positively assured that there is no such, nor ever was any such provision in the Code of Ethics; nor any clause which by cleverest distortion could be twisted into such interpretation. The *Oklahoman* should know that, however, without reminder; it will, when the sacrifices of all time are recalled to the editorial mind by memory of the doctor's behaviour when human suffering is the order of the day. What the *Oklahoman* probably soonest forgets, is these very acts. The "sufferer," too, so commonly forgets, that the doctor is sometimes justified in being wary, even at the expense of incurring the title "hardboiled." The repeated cases of farcical charges brought against Oklahoma City physicians alone by its swarm of leeching lawyers may justify some of the peculiar actions laid at the doctor's door.

GASTRIC ADENOMA.

Owing to the frequency of cancer of the stomach, Emil Novak, Baltimore (*Journal A. M. A.*, March 27, 1920), says that benign tumors of the same organ have received comparatively little attention. The most interesting neoplasms of this type are perhaps the adenomas, of which he reports a case. These fall into certain groups which may be recognized as follows: "1. Polypoid adenoma, either single or multiple (*les polyadenomes polypeux*). In this type, the interior of the stomach presents one or more polypoid growths springing from the mucosa. As many as 300 have been reported in one case. 2. The so-called polyadenoma *en nappe* of Menetrier. This is characterized by involvement of large areas of stomach wall, measuring perhaps as much as 10 or 12 cm. in diameter. In this way large plaques are produced, rather than isolated polypoid outgrowths. 3. The adenoma of the Brunner gland type which was first described by Hayem in 1897. The point of distinction in this variety is that the gland tissue of the tumor, even though the latter be located in the stomach itself, is of the type of the Brunner glands which are found normally in the duodenum. This is the rarest of the three forms." There is little definitely known as to the etiology of these growths, but it is commonly believed that they are due to a chronic gastric catarrh. While they may cause no serious symptoms for years, it is generally conceded that they have an adenocarcinomatous degenerative tendency. They occur usually in advanced life, the observed cases having been mostly in persons over 50. They have been more extensively studied in pathologic institutes from samples found at necropsy in patients that had died from other diseases. There are no distinctive symptoms—hence their oversight. In the marked cases perhaps the roentgen ray may be of service. The case here described was of the single polypoid adenoma type. There is no special point of predilection in the stomach interior. Microscopically, these tumors are formed chiefly of the overgrown glandular tissue of the gastric mucosa. "The glands themselves are commonly of the pyloric type and are lined by cylindric epithelial cells, which are sharply marked off from the basement membrane. The nuclei are placed close to the latter, and goblet cells are numerous. A greater or less degree of cystic distension of the glands is common, and may be so marked as to give a honeycombed appearance to the cut surface of the tumor. The interglandular substance is a dense connective tissue, often showing moderate round-cell and leukocytic infiltration. The glandular tissue shows no tendency, in benign growths, to penetrate beyond the muscularis mucosae, a point

emphasized by Napp." The surgical problems involved in the treatment are comparatively simple—gastrotomy seeming to be the usual operation. In the case reported, the tumor was almost glandular, measuring about 3 cm. in diameter, the attached pedicle being 2 cm. in length, and about 0.5 cm. in diameter. It was apparently a benign pedunculated adenoma, removed by gastrotomy by the usual right rectus incision. The article is illustrated.

WIT AND HUMOR GATHERED FROM EVERYWHERE

It used to be "when I was abroad." Now,—“during my army service.” Times do change.

A Wise Lad.

“Now, boys,” said the teacher in the juvenile Sunday school class, “our lesson today teaches us that if we are good while here on earth, when we die we will go to a place of everlasting bliss. But suppose we are bad, then what will become of us?”

“We’ll go to the place of everlasting blister,” promptly answered the small boy at the pedal extremity of the class.—*The Medical Standard*.

Cause or Result?

“Grandma French has been sick the past week with a bad spell of indigestion. She is staying with her daughter.”—*Correspondence in the Jewell Republican*.

Deep roars from the K. S. A. C. Brown Bull: Kissing a girl through a veil is like drinking champagne under a shower—you don’t get the full benefit. * * * Women don’t chase me. Neither does an undertaker leave his office. * * * When a man has a birthday he sometimes takes a day off, but when a woman has a birthday she takes a year off. * * * It is impossible today for a man to save \$1,000. As soon as he succeeds in saving about \$900 he buys a car.

Cheering Information.

Patient—Doctor, are you sure you have diagnosed correctly? One has heard of cases where the physician has treated for pneumonia and the patient has died of typhoid.

Doc.—Rest assured. When I treat a patient for pneumonia he dies of pneumonia.

Suffered No Ill Effects.

In an Arkansas river town built largely on reclaimed land, most of the houses had to be built on pillars four or five feet above ground. One resident with a longer head than his neighbors inclosed the space under his house with pickets and in the pen thus made he kept a drove of scrawny hogs.

“Do you think it is sanitary—healthful—to keep your hogs under the house like that?” he was asked.

“Aw, I don’t know, stranger. I reckon so,” replied the native, and hitched up his overalls.

“Never notice any bad effects from it?”

“W’y, no,” he drawled. “I been a-keeping my hawgs there for fourteen years and never lost a hawg.”—*Harper’s Magazine*.

A Red Cross man in the recreation room of one of the Debarkation Hospitals offered to send a telegram home for a returning wounded soldier. This is what the boy dictated: “Debarked, Deloused, Delighted. Jim.”

Costly Removals.

“I’m afraid the Jibways won’t take a trip this summer.”

“What’s the trouble?”

“Mr. Jibway says there are too many tonsils coming out of his family and not enough money coming in.”—*Birmingham Age-Herald*.

Seems So.

And if the pictures in the advertisements are reliable, most women have certainly quit wearing their stays where Rosa wears her beads.—*Arkansas Thomas Cat*.

A Prohibition Rubaiyat.

Before the phantom of near beer was tried,
Methought a voice within the tavern cried—
“When all the cocktails are prepared within,
Why nod the drowsy Bevo birds outside?”

Myself, when young, did earnestly frequent
Tap room and bar, with many another gent;
And loudly sang, till I was rudely thrust
Through the same swinging doors wherein I went.

Well I remember how, with brave carouse,
I took one Mamie Taylor to my house,
And there, with Widow Cliquot, just we three,
Acquired a great and monumental souse.

I sometimes think that never blooms so red
The nose, as where some buried highball sped;
That every pound of paunch the clubman wears,
Dropped in his lap from his once aching head.

A book of curses underneath the bough;
A glass of milk, a cake of yeast, a cow,
And congress crying, "This is Paradise!"
Ah! Paradise were wilderness, I vow.

Then fill the cup; and, in the fire of spring,
The black frock coat of prohibition fling.
Our private stock has but a little way
To flutter, and, Lord knows, it's on the wing!

And when, like Ganymede with brimming glass,
The waiters their clandestine cocktails pass,
And on their happy errand reach the spot
Where I make moan—fill up my Demi Tasse!

—George S. Chappell in *Vanity Fair*.

A man looks at a woman because he wants to; a woman at a man because she wants him to look at her.

Not So Mild.

"Is there any moonshine liquor around here?"

"They call it 'moonshine,' " answered Uncle Bill Bottletop, "but its effect is more like sunstroke."
—*Washington Star*.

Canny.

"I got a surprise yesterday," said the successful man as he lunched with a friend.

"How's that?"

"I gave \$500 apiece to my three nephews last night. They inherited it under a will of which I was executor. I took the money up to them in nice new notes, and after I'd passed it out, I said:

"Now, boys, I've given each of you \$500, which is your own to do as you please with. I want you to tell me what's the first thing you're going to do with it. And they all said, 'Count it.' "—*Answers, London*.

The Alma Enterprise reports that an Eskridge man was visiting a friend in Topeka last week. The friend said, "Walk down to the house with me and we'll have a drink." "Walk?" said the Eskridge man. "Let's run!"

Dangerous.

"Do you think kissing is as dangerous as they say?"

"Well, it has certainly put an end to a good many bachelors."—*Boston Transcript*.

A reporter was misinformed, and the obituary of a live man appeared in the Dalby Tribune, according to the Atchison Globe. Of course, the live man was more or less indignant about the error, and rushing to the telephone, called the editor. "I see in your dirty old sheet that I am dead," he snorted. "Yes," replied the editor. "Where are you speaking from?"

COUNCIL ON PHARMACY AND CHEMISTRY

AMERICAN MEDICAL ASSOCIATION

(The following articles produced by advertisers in this Journal have been accepted for inclusion with New and Non-Official Remedies by the Council on Pharmacy and Chemistry.)

PROPAGANDA FOR REFORM.

(In Part)

Deterioration of Ouabain (Crystalline Strophantin) Solutions. Levy and Cullen, having observed wider variation in the potency of several lots of ouabain furnished in ampules, found that the sterilized solutions were decidedly alkaline in reaction, whereas freshly prepared aqueous solutions of the drug were neutral or slightly acid. Since ouabain (crystallized strophanthin) is readily rendered biologically inert by heating with alkali, the authors ascribe the deterioration of the solutions to alkali derived from the soft glass from which ampoules are often made. The deterioration may be averted by the use of containers of hard glass (Jour. A. M. A., April 3, 1920, p. 955).

Anti-Tuberculous Lymph Compound (Sweeny). This is put out by the National Laboratories of Pittsburgh, Dr. Gilliford B. Sweeny, "Medical Director." Just how Anti-Tuberculous Lymph Compound is made today is not stated. It is fair to assume that it is not made in such a manner as to bring it under the federal laws governing the sale of serums and similar preparations. The claims made for the preparation are uncritical and unscientific, mainly of the testimonial class. When some of these testimonials were investigated, every physician who answered the inquiry regarding his previous and present opinion declared in effect that he had long since ceased to have faith in the value of the preparation. The facts are that no serum or lymph has thus far been proved to have any value in the treatment of tuberculosis. Having examined the available evidence, the Council on Pharmacy and Chemistry declared Anti-Tuberculous Lymph Compound (Sweeny) not acceptable for New and Non-official Remedies (Jour. A. M. A., April 3, 1920, p. 965).

Anti-Syphilitic Lymph Compound (Sweeny). This preparation is made by or under the direction of Dr. Gilliford B. Sweeny, whose researches (?) led to the production of Anti-Tuberculous Lymph Compound (Sweeny). According to the available information, this preparation is made by suspending benzoate of mercury in lymph from the bullock. The circular exploiting this preparation makes the statement that it is seldom necessary to continue the treatment beyond two months. If one chooses to be credulous, this would indicate extraordinary power for the mercury. That any physician could be induced to place his trust in this preparation is almost unthinkable. The Council on Pharmacy and Chemistry declared Anti-Syphilitic Lymph Compound (Sweeny) not acceptable for New and Non-official Remedies (Jour. A. M. A., April 3, 1920, p. 966).

Pharmaceutical Houses and the Council on Pharmacy and Chemistry. In no one direction has the council made greater efforts than in its endeavors to secure the fullest co-operation of the various pharmaceutical houses. The difficulty has been, and always must be, the fundamental antagonism between objectives that are largely commercial, on the one hand, and purely scientific on the other. Nevertheless, the Council has always believed that there is a possible middle ground wherein the interests of therapeutics would not be injured, but would go hand in hand with commercial development based on enlightened self-interest. The Council has practically the undivided support of manufacturers of medicinal chemicals; but pharmaceutical firms which find it profitable to promote specialties—unscientific or ordinary mixtures of pharmaceutical or biologic products sold under trade names—have not supported the Council. The methods of the pseudochemical companies, whose sales propaganda in the interests of unscientific nostrums with its attending damage to scientific medicine had led to the establishment of the Council, has found their lodgment in most of the pharmaceutical houses. Is it any wonder that such firms are antagonistic to the work of the Council? When the medical profession as a unit will support the Council in its work, then such firms will find it good business policy to market products which are eligible for New and Nonofficial Remedies, but not before. The Council, constituted of scientific men working without remuneration in the interest of scientific medicine and the medical profession, expects—and rightfully—the co-operation and support of the members of that profession. What is needed is the active, sympathetic co-operation of physicians; the co-operation of pharmaceutical houses will follow as a matter of course (Jour. A. M. A., May 1, 1920, p. 1234).

Some Misbranded Drug Products and Nostrums. The following products have been subject to prosecution by the federal authorities under the Food and Drugs Act: Quinin Sulphate Tablets and Calomel Tablets of the Drug Products Company, New York City, did not contain the amount of drug claimed. Acetphenetidin and Salol Tablets of the Carrol Dunham Smith Pharmacal Co., New York City, did not contain the amount of drugs claimed. Hostelley's Hypophosphites and Hostelley's Chemically Pure Hypophosphites were adulterated and misbranded. Stoddard's Pinus-Codeia, Salcetol-Codeia Tablets, Salcetol Phenylamine Ammonii Salicylate Tablets, Salcetol Co. No. 2 Infant Corrective Tablets, Cannabin Co. Tablets, G. S. Stoddard & Co., New York City, were misbranded. Dr. King's Star Crown Brand Pills were sold under false therapeutic claims. Marshall's Pain Drops, Marshall's Lung Syrup, Dr. J. C. Brown's Unequalled Liquid Drops, Marshall's Blood and Liver Pills, Egyptian Oil, and Arctic Oil Liniment of the M. W. Marshall Medicine Co., were sold under false therapeutic claims (Jour. A. M. A., May 1, 1920, p. 1269).

More Misbranded Nostrums. The following "patent" medicines have been the subject of prosecution by the federal authorities because they were sold under false claims: Seelye's Ner-Vena, a syrup containing alcohol and vegetable extractives, among which were those of juniper, wild cherry, senna, gentian, saffron, uva ursi and cinchona; Hill's Rheumatic Pills, consisting of vegetable extracts, including aloes, and five per cent of mineral salts; Jenkin's Rheumatism, Gout and Neuralgia Annihilator, containing over 46 per cent alcohol, salicylic acid, resinous plant extract and water. Short Stop, a syrup containing licorice and wild cherry extract, ammonium carbonate, small amounts of an antimony salt, benzoic acid, camphor, oil of anise and traces of an alkaloid. Antiseptine, a powder composed essentially of anhydrous zinc sulphate and lead acetate together with a small amount of copper acetate. Cassidy's 4X, consisting essentially of aloes, colocynth, resins, and a small amount of a mercury salt alcohol and water. "P. G. S." (Schuh Drug Co.), consisting of plant extract including extract from a laxative drug, resin, and not more than a trace, if any, of mercury, alcohol and water. Red Cross Pile Cure, suppositories consisting essentially of cocoa butter, tannin, menthol, a lead compound, iodid, sulphate and possible acetate (Jour. A. M. A., May 22, 1920, p. 1473).

Proprietary vs. Nonproprietary. The exhibit of the A. M. A. Chemical Laboratory at the recent New Orleans session of the A. M. A. contained a card comparing the cost of drugs sold under proprietary and nonproprietary names. The following list compared the wholesale price per ounce of drugs sold under protected (proprietary) names with the same drug sold under a common (nonproprietary) name: Aspirin-Bayer, \$0.85; acetylsalicylic acid, \$0.16. Phenacetin, \$0.65; acetphenetidin, \$0.27. Atophan, \$3.50; cinchophen, \$2.00. Kelene (10 gm.), \$0.56; ethyl chloride (10 gm.), \$0.45. Duotal, \$1.90; guaiacol carbonate, \$0.80. Urotropin, \$0.60; hexamethylenamine, \$0.21. Sulphonal, \$1.70; sulphonmethane, \$0.80. Trional, \$1.90; sulphon-ethyl-methane, \$1.00. Diuretin, \$1.75; theobromine-sodium salicylate, \$0.70. Aristol, \$1.80; thymol iodide, \$1.00. Economy as well as scientific prescribing demands the use of nonproprietary names whenever possible (Jour. A. M. A., May 22, 1920 p. 1473).

Cotton Process Ether. The Du Pont Chemical Works have decided to present "Cotton Process Ether" to the Council on Pharmacy and Chemistry for consideration, and the ether will be thus defined: An improved anesthesia ether consisting of highly refined diethyl oxid with approximately two volumes of ethylene, one-half volume carbon dioxid and one per cent. by weight of ethyl alcohol (Jour. A. M. A., May 22, 1920, p. 1474).

Fumes of Iodin. For some time manufacturers have urged substitutes for tincture of iodine, claiming that the substitutes were free from the undesirable properties of the tincture and at the same time possessed special virtues which the tincture could not possess. More recently, attention has been directed to the administration of iodine in the form of vapor. Luckhardt reports that they are rapidly and completely absorbed. It was found that the administration of iodine through the respiratory passages even in small quantities is fraught with great danger. Such administration induces dyspnea, and when it is given in large quantities, acute and fatal pulmonary edema ensues within twenty-four hours. When respiratory disorders are present at the time of the administration, the fatal edema supervenes very quickly (Jour. A. M. A., May 29, 1920, p. 1521).

ECONOMICAL AND SAFE FLY POISON.

Prof. R. I. Smith, entomologist at the North Carolina State Agricultural Station, says:

"Formalin is a very successful poison for flies in spite of many reports to the contrary. I have recently used it extensively with excellent results. The method which I have found most successful is the use of formalin in milk with the following proportions:


One ounce (two tablespoonfuls) of formalin.

Sixteen ounces (one pint) of equal parts milk and water.

In this proportion the mixture seems to attract flies much better than when used in sweetened water. The mixture should be exposed in shallow plates. A piece of bread in the middle of the plate furnished more space for the flies to alight and in this way serves to attract a greater number of them."

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A DISCUSSION OF THE TREATMENT OF MALARIA.*

C. C. BASS, M. D.

TULANE COLLEGE OF MEDICINE

NEW ORLEANS, LA.

The object of this paper is: (1) to emphasize the importance of physicians curing the cases of malaria they treat, and (2) to specify proper treatment for this purpose.

1. Malaria constitutes a large part of the sickness in many localities in a vast area in the southern part of the United States. Every person who has malaria gets it from another person through the bites of mosquitoes as secondary hosts of the malaria parasite. Mosquitoes are not infected until they get infected by biting persons who have malaria parasites in their blood.

It frequently occurs that when a person is once infected he carries the infection for many months and sometimes even two or three years, having clinical relapses from time to time, and at other times is free from any recognized clinical symptoms. During all of this time, however, he is a malaria carrier and a potential source of infection to mosquitoes and through them to other persons. In extensive studies furnishing information on this particular point, it has been found that more than 50 per cent of all of the clinical attacks of malaria that occur are relapses and not new infections. It is, therefore, very apparent that if those who have clinical attacks were cured or disinfected so that they would not relapse, the incidence of malarial attacks would be very greatly reduced. Not only would this be so, but the number of malaria carriers from which new infections come would also be very greatly reduced.

Physicians treat only a portion of the clinical attacks of malaria that occur, the rest being treated either by home medication with quinin and patent medicines or receiving no treatment at all. No doubt the extent to which clinical malaria is treated by physicians varies greatly in different localities. The writer has had an opportunity of inquiring into this question rather carefully in a locality where malaria is very prevalent in the Mississippi delta, namely Bolivar and Sunflower Counties in Mississippi, and the information obtained indicates that approximately 20 per cent to 25 per cent of the malaria that occurs in that locality is treated by physicians. It seems reasonable to conclude, therefore, that if the physicians of this particular locality would cure all of the cases of malaria they treat, there would be a corresponding reduction of 20 per cent to 25 per cent both in the incidence of the disease and also in transmission, over what would occur if they cured none of their cases.

*Read in Section on General Medicine, Mental and Nervous Diseases, Annual Meeting, Oklahoma City, May, 1920.

It would be difficult and in fact impossible to ascertain just what proportion of the malaria cases treated by physicians are cured. By cure, I mean disinfection, so that relapse and transmission do not occur. All the experience and observation I have had leads me to believe a comparatively very small per cent of the cases treated by physicians are actually cured and that a very much larger per cent remain infected, to relapse and be sources of infection to others.

The physician is not entirely responsible for this condition. When called upon to treat a case of malaria, the chief purpose for which he is called is to relieve the clinical symptoms. The patient does not understand the nature of the disease and is little concerned about getting finally disinfected of the malaria parasites which are causing his clinical symptoms. Naturally, the physician is not so much interested in giving treatment and advice which the patient is not especially interested in. Therefore, after the clinical symptoms are relieved no advice as to the treatment necessary for final disinfection is given, or, if it is given, it is often given in such an unimpressive way that it is not carried out by the patient. Though I may be quite wrong in my estimate, I doubt very much whether even 10 per cent of physicians give such advice and treatment as is necessary to disinfect patients following clinical attacks of malaria.

One thing that has been responsible for the use of insufficient or improper treatment on the part of physicians is the lack of any standard method of treatment. If one wishes to learn the best method of treatment and consults the many different authorities on the subject in text-books or otherwise, he finds the greatest variety of methods of treatment recommended. Many of them are inadequate and many are harmful, producing so much discomfort to the patient as to defeat the purpose. Spectacular methods of treatment seem to appeal to many of the authorities and also appeal to physicians and to a certain extent to the patient. I refer especially to such methods as hypodermic or intravenous administration of quinin, administration of some of the widely advertised preparations of arsenic, etc. Though special methods of administering quinin may have a very limited place in the treatment of very rare cases of malaria, such spectacular methods as mentioned have been largely responsible for the neglect of much more appropriate and successful methods for all ordinary purposes.

2. *In discussing proper treatment of malaria*, it should be stated at the outset that there is only one specific remedy known for the disease and that is quinin. It is, however, one of the most perfect specifics in medicine. Barring extremely rare, moribund cases, any case of malaria can be cured by proper use of quinin. There are, so far as I have been able to observe, no exceptions. These results are not to be expected, however, from improper use of quinin any more than we would expect favorable results from improper employment of other specifics in medicine.

One of the questions that arises is what mode of administration is best. We have three to choose from—intravenous, intramuscular, and oral.

When quinin is given intravenously it reaches the blood stream at once and begins at once to accomplish whatever can be accomplished by killing malaria parasites in the circulating blood. Apart from the fact that it reaches the blood stream more quickly and in rare instances more certainly, intravenous administration has nothing to recommend it over administration by mouth.

Intravenous administration of any drug, even salt solution, is a formidable procedure requiring expert technical skill and always accompanied by a certain element of risk. Therefore, it should never be employed except in emergency justifying the risk. Intravenous administration of quinin for ordinary cases of malaria is most pernicious. Quinin administered intravenously is no more effective, dose for dose, than the same amount administered by mouth. Even if one dose administered in this way with the accompanying danger of harm was as effective as administration by mouth over a much longer period of time without any risk whatever, the intravenous method could hardly be justified in any but very exceptional cases. Its proper use is limited, therefore, to rare instances and then only until such time as oral administration can be depended upon.

Hypodermic or intramuscular administration of quinin should be mentioned only to be condemned. It is the least dependable method of the three and the only possible place for it in the treatment of malaria would be in cases where intravenous administration is indicated but for some reason cannot be carried out.

When quinin is injected into the tissues more or less damage of tissue results. The quinin is absorbed rapidly or slowly, but in many instances it is several days or weeks before it is all absorbed. Sometimes necrosis of tissue and abscess formation take place and the quinin is never absorbed. In other instances it may be absorbed much more rapidly. The uncertainty of absorption and the frequent local inflammation, necrosis and abscess formation leave little place for administration of quinin in this way.

There are those who believe they have seen results from hypodermic administration of quinin when administration by mouth had failed. As a matter of fact, such cases either were not malaria at all and the apparent results, therefore, not the effect of quinin or, as often occurs, the hypodermic of quinin was administered about the time the results of quinin administered by mouth appeared. It cannot be denied that quinin injected into the tissues may and will stop the clinical symptoms of malaria, but there is no experimental proof that a given amount of quinin administered in this way is more effective than the same amount administered by mouth.

Quinin given intravenously or injected into the tissues in the treatment of ordinary cases of malaria, which has been all too frequent during the past few years, is an example of the way in which we sometimes adopt and employ new and spectacular methods and remedies in medicine to the neglect of more effective and well established methods and remedies.

Administration of quinin by mouth is uniformly effective, not accompanied by any risk, it does not produce the damage and discomfort that frequently result from other methods and it does not require expert technical ability to carry it out. There is no more effective method of administration of quinin and it is to be preferred over all other methods, under all ordinary circumstances at least.

In giving quinin by mouth it may be given in capsule or tablet form, in suspension or in solution. Those who prescribe acid solution of quinin do so with the idea that it is more rapidly absorbed than when it is not in solution. Experimental evidence shows that such is not the case. However, even if it were true, it would be an objection instead of an advantage. What we need is slow continuous absorption and not rapid absorption. Slow absorption takes place, however, whether the quinin is given in solution or not. Acid solutions of quinin are extremely unpleasant to take, and though we may occasionally get patients to take it for a few days, it rarely will occur that a patient will take it long enough to get rid of his infection. Those who are in the habit of prescribing quinin in acid solution or who contemplate doing so in the future should try a few doses themselves. They will then be in better position to decide whether to prescribe it for their patients or not. The same thing could be said about those who give quinin hypodermically. They ought to try a few doses themselves and I am sure that they would be more likely to hesitate before giving it to patients unless the circumstances especially demand it.

So far as I know, there is no choice between tablets and capsules. Though there may be rare instances in which capsules or tablets are not quickly dissolved and absorbed, instances are certainly very rare.

The best suspension of quinin is the sulphate of quinin suspended in aromatic syrup of yerba santa prepared in such a way that one teaspoonful of the syrup contains the desired dose. This is especially suitable for administration to children.

The choice of a salt of quinin should also be considered. One author advocates one salt and another another. The chief salts, however, for oral administration are ordinary sulphate, bimuriate and bisulphate. The latter two salts are chosen because they are supposed to be more rapidly absorbed. During 1917 I had under

my observation an extensive experiment in which different salts of quinin were tried on those who had malaria in a group of approximately fifteen hundred convicts on a penitentiary farm. Only the three salts just mentioned were tried. Though the experiment was not conclusive, the evidence obtained indicated that none of the salts were superior to the ordinary sulphate and that possibly sulphate was the most effective. For purposes of simplicity and uniformity as well as effectiveness, the sulphate is to be preferred.

In determining the dose of quinin for the treatment of malaria, we wish to employ the minimum that will accomplish the desired result, both from the standpoint of economy and also the patient's comfort. Unnecessarily large doses are a waste of a useful drug, the supply of which is inadequate for present needs and also cause unnecessary discomfort to the patient. Though almost all persons can take sufficient quinin to control malaria, enormous doses produce much discomfort and may possibly do permanent harm.

The object of treatment is first to relieve the clinical symptoms. Thirty grains of quinin daily is quite as effective in relieving the clinical symptoms of malaria as any larger amount. The clinical symptoms stop in from one to three or possibly four days. In fact, twenty grains, or even ten grains, will also stop the active symptoms in most cases but not in all. Thirty grains daily is about the minimum amount that can be depended upon to be effective in practically all cases; therefore, this amount should not be varied from, except, perhaps, in rare instances. During an experience of several years spent largely in studying and observing malaria, I do not recall a single instance in which active clinical symptoms due to malaria continued as long as four days while the patient was taking as much as thirty grains of quinin daily. Though others may have observed exceptions, it must be admitted that they are so rare as to be negligible.

So far as the effect on the malaria is concerned, it is immaterial whether the daily amount of quinin is given in one dose or in several divided doses, but a single thirty-grain dose produces more discomfort to the patient than the same amount given through the twenty-four hours in divided doses. Ten grains every eight hours is almost ideal.

The second object of treatment is to cure or disinfect the patient to prevent relapse and also to prevent transmission of the infection to others. This is the part of the treatment which is so much neglected, the importance of which I wish to emphasize.

Almost all who treat malaria sooner or later get enough quinin in to relieve the clinical symptoms, but unfortunately the subsequent treatment is very frequently inadequate to destroy the infection. Daily administration of quinin is more effective than interrupted treatment for this purpose. Ten grains daily is about the minimum amount that can be depended upon. Smaller doses are less effective and larger doses are unnecessary. Since a larger amount is unnecessary, it is especially undesirable because of the unpleasant effect which is greater in persons who are up and about at their occupation than when they are in bed. It is likely to prevent continuation of the treatment for a sufficient period of time to accomplish the desired result.

Since the effect on the malaria of a given daily amount of quinin is as good when given in several divided doses, and since ten grains at one dose produces little unpleasant effect in most all persons, the single daily dose of ten grains is preferable. It is less trouble to take one than several doses daily.

The unpleasant effect is less when the patient is in bed than when he is up and about. Therefore, at night before retiring is the best time of day to take the quinin.

The length of time quinin must be continued is a question of vital importance. We have no way of determining when a patient has been disinfected. Absence of clinical symptoms and failure to find parasites in the blood do not prove that the patient is no longer infected. The only dependable indication of disinfection is the duration of treatment which is known to be effective.

There is great variation in the duration of treatment required to disinfect different persons. Some require only a few days, others a few weeks. Nevertheless, sufficient treatment will disinfect any person. In a very extensive experiment with which I have had the good fortune to be associated during the past four years, the evidence indicated that about 60 per cent to 70 per cent are disinfected by ten grains of quinin daily for a period of four weeks, and that about 90 per cent to 95 per cent are disinfected by eight weeks of treatment. It would probably take twelve weeks or possibly longer to disinfect 100 per cent. On account of the long treatment necessary to disinfect 100 per cent, and the small per cent disinfected by short treatment, it seems desirable to strike a middle ground of eight weeks for practical purposes, knowing that it falls a little short of perfect.

The national malaria committee of which the Surgeon General of the United States Public Health Service is Chairman, and Dr. H. R. Carter also of the Public Health Service is Secretary, has adopted and proposed a standard treatment of malaria. It is as follows:

"For the acute attack, ten grains of quinin sulphate by mouth three times a day for a period of at least three or four days, to be followed by ten grains every night before retiring for a period of eight weeks. For infected persons not having acute symptoms at the time, only the eight weeks treatment is required.

"The proportionate doses for children are: Under 1 year, one-half grain; 1 year, 1 grain; 2 years, 2 grains; 3 and 4 years, 3 grains; 5, 6, and 7 years, 4 grains; 8, 9 and 10 years, 6 grains; 11, 12, 13 and 14 years, 8 grains; 15 years or older, 10 grains."

This standard treatment is now being employed entirely and has been employed chiefly for nearly four years in the largest experiment in malaria control ever undertaken in the world. It has met every expectation and I wish to commend it to you. It is far better than the many varied, spectacular and inefficient methods in general use.

In conclusion, I wish to emphasize the fact that the possibility of rapid reduction in the prevalence of malaria in this or any other state rests in the hands of the physicians of the state. If each would cure all the cases of malaria he treats, malaria incidence would rapidly decline. An essential step toward this end for any physician or group of physicians to take, is to adopt and follow the standard treatment or other equally effective treatment.

DISCUSSION.

Dr. Jas. T. Riley, El Reno: Many of you heard Dr. Bass' paper on Malaria last evening. He will talk to us.

Dr. Bass: I did not want to take up any more of the time of this meeting. I appreciate very much the audience and reception I had last night. However, if there are any questions that arose from my paper last night, I would like to answer them. If there are any criticisms or suggestions, I would appreciate hearing them. I have been a student of malaria many years.

Dr. F. M. Sanger, Oklahoma City: Dr. Bass, do you standardize the treatment?

Dr. J. P. Cowman, Comanche: Do you use quinin in hemoglobinuric malaria?

Dr. J. T. Fulton, Atoka: I would like to ask the doctor as to his condemnation of indiscriminate use of quinin.

Dr. J. L. Mitchell, Vinita: I would like to ask how to detect the malaria from a number of other things.

Dr. J. T. Martin, Oklahoma City: I would like to ask the diagnosis of malaria when you have a negative sign with malarial symptoms.

Dr. L. J. Moorman, Oklahoma City: I would like for Dr. Bass to make clear the diagnostic value of quinin as a therapeutic agent.

Dr. T. H. Briggs, Atoka: I do not know whether Dr. Bass made mention of elimination before giving quinin. I would like to have his opinion as to the kind of elimination before quinin treatment.

Dr. Bass: I shall try to answer the several questions in the order they were asked, and of course it would not be proper to take up time to enter into an extended answer to all your questions.

The first question as to the desirability of a standardized method of treatment to the neglect of the individual. It must be appreciated that where we have not a specific in medicine, for instance in pneumonia, typhoid and many other diseases, the cause of which we do not know, it is not practical to employ a standardized method of treatment to the same extent as in this disease, where we have a certain specific. We have no method by which we can determine which patient will do better with a small dose, or another with a large dose, therefore it seems advisable to attempt standardization. Of course we regulate the doses with regard to age and size; at the same time individualism in the treatment of malaria is an error unless there is a special reason for varying from the standard, therefore I believe one of the important things to do in the treatment of malaria is to follow a standard method of treatment, which is better than promiscuous methods we employ.

The treatment of hemoglobinuric malaria is a question that is raised in nearly all discussions of malaria. There is a great difference of opinion. If we examine the blood we find malarial parasites in a great many patients. On the second or third day they have sufficient malarial parasites. They are not sufficient to produce any considerable harm. Therefore it would seem wise and proper to avoid the use of large doses of quinin during the stage when quinin is not demanded. Of course, as soon as the patient may safely take quinin, the proper thing is sufficient quinin to disinfect. You will recall the condemnation of the intravenous administering of quinin. What I said was that the promiscuous use of intravenous and hypodermic quinin was a pernicious practice. My objection is that intravenous administration of quinin is not one particle better than administration by mouth. Intravenous administration is a formidable procedure and one that we should resort to with caution. It requires expert technical skill and ability. If we want to control malaria, if we want to cure those who have it, we must, in a large per cent of the cases, make our treatment simple and practical, therefore there is no use for intravenous use of quinin. There is one instance in which the intravenous administration of quinin is a life saver, that is in comatose malaria. Whenever you have such cases give quinin intravenously, but just as soon as that state is passed and quinin can be given by mouth, then it should be given that way.

The question of the means of control, with which I am identified, I will state briefly. Where malaria prevails to any great extent, the disease may be controlled either by prevention or controlling the mosquito that carries malaria, or by getting rid of the malarial parasite. If there were no mosquitoes to pass it from man to man there would be no spread of malaria. On the other hand, if there were no malarial parasites for the mosquito to get, there would be no transmission of malaria. It has been demonstrated there would be no malaria if there were no mosquitoes. It is also possible to control malaria by disinfecting people who have malaria so there would be no parasite.

The question of diagnosing malaria when the smears are negative. The only way in the world to know a patient has malaria is to find malaria parasites in his blood. Our diagnosis on history is frequently correct. Those of you who are careful can make diagnosis on the history and clinical case. The only certain diagnosis is to find the malarial parasite in the blood. Therefore it is absolutely impossible to examine any person, physically, and by history often without blood examination and determine positively he has no malaria. If we fail to find parasites we can say positively he has not malaria. Otherwise we cannot. The blood examination cannot be depended on to eliminate the question of malaria. Whenever a person is having clinical attacks of malaria, or clinical symptoms of malaria,

there are enough parasites present that we can find them. It would be a surprise no doubt to many of you to know how many people have malaria in their blood who have not clinical symptoms.

The question of the diagnostic use of quinin. Of course, the proper way to diagnose malaria is to make examination for malarial parasites. That is by far the most dependable when the proper facilities are at hand to make the examination.

The final question as to the importance of elimination in treating malaria. The only specific remedy for malaria is quinin and it must be given always if we get specific results. It is more effective, the results are more easily accomplished whenever the alimentary canal is emptied. Therefore, a purgative and a reasonable diet are both good. Whenever the diagnosis of malaria is made we prescribe a purgative, which is usually calomel, also prescribe quinin to start when the purgative works off. Sometimes the patient waits a day before taking the quinin. The proper thing is to start the specific remedy at once. The time to start quinin is when we diagnose malaria, likewise the time to take the blood for examination is when we expect the patient to have malaria.

Dr. J. T. Martin, Oklahoma City: I move this section give a vote of thanks to Dr. Bass—Carried.

MALARIA.

Bruce Mayne, Memphis, Tenn. (*Journal A. M. A.*, Oct. 11, 1919), offers a formula for the treatment of chronic malaria which is commented on by H. R. Carter, Baltimore. He remarks on the difficulties of obtaining any standardized treatment, and the insufficiency of methods employed. Mayne says: "One must realize at the outset that the ideal formula must provide: (1) for the relief of the patient—the elimination of clinical symptoms; (2) for the destruction of the plasmodia in the peripheral circulation tending toward the prevention of the formation of sexual parasites; (3) for the prevention of the production of quinin-inaccessible parasites (so-called resistant or quinin-fast forms) and (4) for the effectual inhibition of the recurrence of clinical symptoms accompanying relapse with the reinvasion of asexual parasites." The course of treatment proposed covers 75 days and the administration of 800 grains of quinin bisulphate in a geometric progression consisting of four courses of 200 grains each. The plan is illustrated by a chart. Analyzed, it consists of 40 grains, daily for 5 days, given in four 10-grain doses. After this there should be no severe paroxysms, no chills, and only young rings and mature gametocytes in the blood. The patient should probably be out of bed after this, and apparently normal. Twenty grains given daily for ten days is the second course. The third course consists of 10 grains for twenty days, and Fowler's solution or other tonic may be prescribed if indicated. Only gametocytes should be now revealed by the microscope and the patient should be able to resume normal activities. The fourth course is of 5 grains each day for forty days with a tonic accompaniment if necessary. After this a continuance of treatment should be urged for two weeks or more, especially in the milder types. These courses are only practical with a patient under control, as in military service. In his remarks, Dr. Carter, assistant surgeon-general of the Public Health Service, says that the usual insufficient treatment is realized by physicians in the Mississippi Delta. The treatment is discontinued when the active symptoms disappear and the patient feels better, but the undermining of efficiency is incalculable. A standard method of treatment with heavy dosage in the beginning of an acute attack, and continuation after the disappearance of symptoms is, in Carter's judgment, the method to be followed. He would not advise general publication of the method because there may be other better ones, and it lacks the support of sufficient direct observation. While in agreement with the basic plan of the formula and in general agreement with its detail, he does not deem it advisable for the Public Health Service to go on record as indorsing it, until we have more absolute knowledge of its effects in comparison with other methods.

RABIES-HYDROPHOBIA.***T. C. TERRELL, M. D.**

FORT WORTH, TEXAS

FRATERNAL DELEGATE FROM TEXAS STATE MEDICAL
ASSOCIATION

History. Rabies is an ancient and wide spread disorder, which was first described by Aristotle in the Fourth Century, B. C. Practically all animals are susceptible but it is perpetuated among the lower animals, chiefly the dog family, 80 per cent to 90 per cent being dogs and wolves.

Etiology. It is probably caused by a living organism as yet not positively identified, which is transmitted from animal to animal by the inoculation of virulent saliva through the bite, invading the nervous system, rendering it virulent and inducing the symptoms.

Inoculation. The period of incubation varies from nine or ten days to eighteen months or two years, depending upon the bite, location and virulency, the majority averaging from two to three months. It is a well established fact that most every animal is capable of being infected and the animal that is best protected by hair and clothing is not so susceptible as the one that is not.

Influence. Age does not have any influence and a fact that should be remembered is that an animal may transmit the disease before any symptoms have appeared. Another thing we hear is that a rabid dog is afraid of water. This is not true, neither are they necessarily wild eyed and frothing at the mouth, nor do they always carry their tails between their legs, in fact one of the first things sometimes noticed is that the animal is more friendly and playful, thus leading one to doubt that it could be rabid.

Seasonal Prevalence. It has been our experience that the greater per cent of heads examined are positive in winter, although the number of heads examined is greater in the summer. It is more of a coincidence if the actual number of cases are more numerous in one season than another.

All symptoms, as well as the anatomical changes, show that this is a disease of the nervous system primarily. The disease is an infectious one and transmitted from a previous case of the disease as is proven by finding that the secretions of some of the glands, as well as all parts of the nervous system, when inoculated into an animal's brain, is capable of producing the disease. It is believed that when the virus is introduced into the body by a bite or other means it comes in contact with some of the torn nerve fibers and gradually extends to the central nervous system where it produces one of two types of the disease—the furious and the dumb or paralytic type.

It must be admitted that with the exception of the negri bodies, the microscopic anatomy of rabies offers nothing which is constant or characteristic, although we generally find some gross changes, as hemorrhages, congestion, and at times definite softening of the brain tissue. Negri bodies consist of sharply defined round or oval structures occurring within the nerve cells of the brain and cord, taking the stain in a manner very distinct from the cell structures and containing minute granules which stain differently from the rest of the body. They are practically always found in a case of rabies, being found earlier in Amon's horn in the dog.

When we speak of rabies virus we mean the virulent nervous substance of an animal that has had the disease. It comprises the specific cause of the disease and the media in which it is found. Of this we have two types, the street and fixed virus.

Street virus is the virulent nervous substance as found in the natural disease, while the fixed virus is that modified by passing the street virus through a long

*Read in Section on General Medicine, Annual Meeting, Oklahoma City, May, 1920.

series of rabbits. This passage through the animal makes it more virulent until it causes the animal to develop the disease in a fixed period of time.

Influence. The incubation period is influenced by: First, the kind of animal affected. Second, the site of inoculation. Third, sex. Fourth, age. Fifth, severity of bite. Sixth, previous condition of patient, as alcoholism, syphilis, shock, etc. Seventh, treatment. All cases do not become immune, so develop the disease. These are the ones that generally develop the disease early, average time two or three months.

The Two Types in Man. First, furious type. The onset is usually rapid, the patient showing psychical changes very early, becoming anxious, melancholy and depressed with a sense of presentiment of harm. He often is very restless, cannot sleep. Or again, it may start with local numbness, tingling, itching, and pain in wound; sometimes the wound becomes red and tender; or again, the first symptom may be difficulty in swallowing, a feeling of constriction in fauces, or if the cord is first affected, it may start with a difficulty in walking and a slight rise in temperature.

The symptoms progress without delay after the onset; however, the fore-warning symptoms may last several days, but usually only twenty-four hours to forty-eight hours.

The symptom hydrophobia is present in nearly all cases, due to the fact that when the patient undertakes to swallow water or other fluid it produces a spasm of the muscles of deglutition, which is very painful. This spasm does not seem to be brought on so easily by solid food. I have seen cases in which the spasm was so painful I did not have the nerve to ask the patient to try again to take either food or water. In the cases that I have personally observed, the outstanding feature was the restlessness, nervousness; they could not be made to stay in bed or out; they kept on the move all the time. Another thing that impressed me was the acuteness of mentality. The patient, if he be of good self-control, may keep these spasms off to some extent. This spasm affects not only the muscles of deglutition but also those of respiration and may be produced by a noise, jar, or draft of air. The reflexes are increased or exaggerated.

The disease usually progresses very rapidly. Remissions usually occur, causing one often to doubt their diagnosis. Another thing that was very noticeable in a youngster that we observed was the tendency to talk almost continually, and did so except when interrupted by a spasm.

There may be periods of severe excitement, the patient losing control of himself, tearing up furniture, etc.; however, there is seldom any tendency to harm other people. The patient may beg to be restrained so as not to injure any one.

Due to the irritation of the nervous system, sexual excitement accompanied by priapism may be present. The voice is hoarse and harsh due to dryness of throat and spasms.

The spasms or convulsions become more frequent and involve more and more of the body. The convulsions may be so severe as to rupture some of the muscles. Vomiting is usually very severe, often vomiting blood and bile.

Death may occur during a convulsion, but generally a condition of paralysis develops and causes death. The spasmodic seizures then become less frequent and severe and less easily provoked. The muscles become limp. The face loses its expression of tension, becomes smooth and expressionless, the jaw sags and the mouth hangs open. There may be an excess of saliva, causing it to dribble out of the corner of the mouth in large quantities. Other patients may not have this, but may show a hard dry tongue. The breathing finally becomes irregular, feeble, and finally the patient dies from respiratory paralysis.

The eye symptoms are: photophobia, nystagmus, and often strabismus. In the last stages the pupils are dilated.

The paralytic type in man may not be diagnosed early, because the symptoms

are less marked and less violent. The symptoms are more of those of the last stages of the excited form and are probably due to a large dose of virus which attacks the cord first instead of the brain. This type is usually slower in producing death, lasting seven or eight days, while the other form usually dies in from three to four days after onset.

Treatment. This paper was written with the purpose of bringing out the fact that a patient treated with the killed virus method has a greater immunity than the one treated by the original Pasteur method, which is twenty-one to twenty-five doses of cord dried over potassium hydroxid sticks at 20 deg. C., from one to fourteen days or from one to eight days. In carrying out the work of the killed virus method, we adopted a standard suspension of one to one hundred fresh rabie brain and cord in physiological salt solution made as follows: Taking one gram of brain and cord, adding one-half to one gram sharp clean sterile sand, grinding thoroughly, using the wedgewood mortar and pestle. After it is thoroughly ground, add, drop by drop, the salt solution until a smooth emulsion is obtained, then adding the salt solution in large quantities until the full amount is added, then filter through a No. 595 S. & S. filter paper. From this standard solution the minimum lethal dose was figured by injecting the rabbits by the intra-cranial method with one-half cc. of the varying dilution which was carried up to one to 30,000. However it was found that a dilution over one to 25,000 was not uniform in bringing down the rabbit, in fact in some instances the rabbit lived after having one-half cc. of one to 20,000 dilution. Having found our minimum lethal dose, the next step was to immunize a number of sets of rabbits (six each) by both the hygienic laboratory technique and the killed virus method.

The original Pasteur method can be found in any text book, so it will not be mentioned further than to say the animals given this form of treatment developed an immunity sufficient to overcome a dose intra-cranially of from 1.35 to 1.85 minimum lethal dose, averaging not over one and one-half minimum lethal dose.

The killed virus is prepared as follows: Take one gram each of cord and brain, grinding with the sharp sand and add, drop by drop, distilled water until you have a thick homogeneous suspension, then adding larger amounts until twenty-five cc. of distilled water are added, then add slowly twenty-five cc. of distilled water containing one gram of phenol crystals. This should be added, a small amount each time, then thoroughly mixed and the process repeated until the twenty-five cc. are added, for if added too fast you get a curdled-looking specimen instead of the smooth homogeneous emulsion as you should have. Place in incubator and keep there for twenty-four hours at 37 deg. C. This gives you a two per cent phenol dilution which will always kill the virus in less than twenty-four hours. At the end of twenty-four hours, bring the volume up to 200 cc. with sterile distilled water, which gives a final dilution of brain and cord one to one hundred, while the phenol is five-tenths of one per cent.

In carrying out the animal experimentation work, we used twenty-one to twenty-five two cc. doses, given intra-muscularly and intra-peritoneally. By this method we found that the immunity could be raised sufficiently so that the animal could in many instances be given from seven and one-half to eight minimum lethal doses intra-cranially and still survive. The interval between finishing treatment and testing for immunity varied from thirty days to four months.

After having proved to ourselves that the killed virus method gave higher immunity than the Pasteur method, we adopted it, using twenty-one to twenty-five doses of two to three cc. of the emulsion as prepared by the above method, injecting it subcutaneously in the loin region of the abdominal wall.

In addition to the treatment by the killed virus method, we thoroughly cauterize the wound with formaldehyde.

Cummings has shown that the dialyzed method was superior to the Hogen or Pasteur method, giving as much immunity with twelve doses as with twenty-one of the other. He used two methods, either direct dialysis or first killing with

formalin and then dialysing out the formaldehyde. This method is practically the same as the one we use except that we do not dialyse as we do not believe there is any advantage in this.

Since instituting this method of treatment we have treated 366 cases that were bitten by a definitely rabid dog, without a case of paralysis or death.

DISCUSSION.

Dr. Gayfree Ellison, Norman: I wish to make just two points on this paper which I think you will allow me. We have a lot of rabies, in fact we have more in Oklahoma than any other state in proportion to our population because we have a great dog population. We pay very little attention to our dogs, they run at large.

The diagnosis of rabies in the dog is very important because there is no use to question the people after they have rabies. To begin early enough to immunize them before they have rabies is usually left to the physician and he is asked whether the dog has rabies and whether the patient should be treated. You have to familiarize yourself with the symptoms of rabies in dogs, and I think one of the best things is not to kill the dog, but keep it under observation. Then as to collecting and shipping the specimen, you should have some kind of an idea, in order, as Dr. Terrell has said, to make it possible to search for the negri bodies. Most of the doctors think this is a chemical analysis. Dr. DeBarr can take up a stomach after a year and find out whether there is poison in it or not. Why couldn't you do that with rabies? It has to be a fresh tissue to be examined. It must be fresh. The brain must be taken out. Therefore sever the dog's head, put it in sawdust and ice and get it to the laboratory as quickly as possible so the laboratory people will have something to show whether there is rabies or not. If he gets a positive report, all good and well; if not, you must take into consideration all these things, that it may be too early, etc. The killed virus will immunize and immunize quickly. You know very well that you can immunize an individual by giving him a very small dose of living micro-organisms. Some can stand it and some cannot. It is exactly the same way in using living virus in hydrophobia, you may produce hydrophobia. You cannot do this with the killed virus. I would like to ask Dr. Terrell if the killed virus will keep for any definite time so it can be shipped?

I would like to make another point, that of immunizing people all over the country. I think the hospital is the proper place. Not in the woods, etc. The place to do a major operation is in a hospital, and I think the proper place to immunize for rabies is in a hospital, for in a hospital they know what they are doing. There are three things to consider: First, the virulence of the dog that bit the patient. Second, size of the bites. Third, how near they are to central nervous system.

A little child on the east side died after two injections of anti-rabic serum. The parents think it was the treatment that killed the child. It had been seven days since the child had been bitten and the bites were near the nervous center.

Dr. T. H. Briggs, Atoka: Somebody is making a big mistake in giving instructions about the time of treatment. We had one dog in Atoka that bit seven children in one day. I was told eight or ten days was soon enough to begin the treatment. It was nine days before I got the treatment. If these cases develop in ten days, why should men be instructed it is all right to wait ten days before treatment? I am sure this child is developing rabies and it did not have the first dose before nine days. That has been the impression, that eight or ten days is early enough to start. If it can develop in nine or ten days, why not begin treatment as early as possible?

Dr. J. P. Bartly, Duncan: This subject of rabies is a very important one and treatment of rabies should be begun early or it is practically of no avail. One thing I want to emphasize, that the so-called "dog days" in the latter part of sum-

mer are not the time in which we have more rabies. Rabies is prevalent throughout the year. Another point is that if a dog bites a person, it is of great importance not to have that dog killed. It should be tied up and kept under observation. The negri bodies found in the brain are not very large in the early days of rabies. If the dog is tied up and observed two or three weeks, and it is living at the end of that time, the probabilities are that the dog was not mad. If you have a dog run wild in a small town, the sheriff usually gets out and shoots it—usually shooting it through the head so a laboratory examination cannot be made. The history of the symptoms that the dog shows is very important. Usually we have a great deal of trouble getting that history. They have heard a good deal but do not know from observation.

Dr. C. W. Heitzman, Muskogee: The discussion relative to the symptoms of rabies in the dog is well taken. Given a house dog, one that has been characterized by his friendliness, then suddenly without any special reason he behaves extraordinarily; he secludes himself. By observation we find him eating strange things such as dish-rags, his own excreta, etc. Usually we can classify rabies into two kinds, the paralytic and the non-paralytic. In the paralytic form we find paralysis of the lower jaw, that is, the jaw drops down and the dog is unable to sieze things in his mouth. While in this form there is no special danger of the animal biting the human or other animals, yet there is danger of the saliva infecting abraded places of the skin. Therefore, this animal should be handled with care if he is handled at all.

The other form develops the nervous symptoms early and usually, if not always, the dog runs away from home. This dog can bite and does bite every form of life that comes in his way. Another symptom that we frequently overlook in the dog is a peculiar form of lameness, generally in the hinder extremities. A dog that has been perfectly well as far as we are able to judge, develops this peculiar kind of lameness without any apparent cause and the other symptoms follow rapidly.

While the cure of rabies is well enough to talk about and to perfect, yet we are overlooking the most important part of the subject—that is, the prevention. It seems that we are able at this stage in the world's history to restrict everything, even to a man's highballs; it would, therefore, seem at first blush that we should be able to restrict rabies. If the proper safeguards which are known to all of us, were thrown about the ownership of dogs, rabies would, like many other diseases, become a thing of the past, or at least be very rare, instead of being on the increase as we are led to believe by the numerous papers published and the different methods of cures advocated.

That rabies is preventable and can be banished from a country is true and we need only to cite the case of England where a case of rabies has not originated for years. Every Englishman is a lover of a good dog and there is no reason why those of us who also love good dogs, should not be able to enjoy this pleasure.

The proper legislation thoroughly enforced will wipe rabies out of any country.

Dr. J. S. Fulton, Atoka: I want to speak of the symptoms of rabies in a dog. I have made some observations, having had a few cases. I had one mad dog of my own. We have discovered that before an outbreak their disposition is different. For instance, my dog was suddenly ugly, wanted to fight every dog that passed. He was friendly to me but in a few minutes he would jump on a number of dogs. I had him chained. He got loose and killed two or three dogs. Several others developed rabies; a hog or two died that I saw him bite. Another thing, Mr. Chairman, I do not think these dogs bite the members of their own family. When the dog gets to that stage he gets out and leaves home and does not come back.

Dr. J. A. Roddy, Oklahoma City: It is well to remember the symptoms of rabies and look for them in case of any individual that is bitten. A rabid dog has infected saliva at least four days before he shows any symptoms whatever. So potentially every dog is a rabid dog until shown otherwise. Statistics have for

a long time shown that all bites of rabid animals taken together, not more than 25 per cent ever produced rabies in man. It depends on the nearness to the central nervous system. A single puncture wound is more less likely to result in fracture. Those cases that have the short duration are those that are lacerated on the face and hands. Before the immunization with fixed virus was attempted it was found that adequate, early cleansing of the wound reduced the cases of rabies. It is just as important as cleansing the area before an operation.

Dr. Terrell, closing: I just want to again emphasize the fact of putting up the dog. Recently we had a case of a young man, and when asked the history he said he did not know. We planted this dog's brain. About thirty days after we developed a nice case of rabies in this animal. This dog had bitten several others. I think every dog should be put up under observation for at least nine days. Another point was asked, how long killed virus would keep. If the virus is kept at a temperature of 30 deg. F., it can be kept five months.

MALARIA CONTROL.

"Malaria is recognized as one of the most serious of the disabling diseases of man," says Wickliffe Rose, New York (*Journal A. M. A.*, Nov. 8, 1919). In mild form it is world-wide in distribution, and in its malignant form belts the globe in a broad zone, including tropical and semitropical regions. There are few diseases, however, he says, that present so many vulnerable points of attack and which, perhaps, can be more definitely or certainly controlled. The great drawback to antimalarial measures is the cost. But recent demonstrations indicate that malaria control can be put within the reach of the average community. Rose reports experiments of four general types made in the field for ascertaining the degree of efficiency under given conditions, and the cost of malaria control by antimosquito measures by the screening of houses, by administration of immunizing quinin and by direct attack on the parasite in the blood of the human carrier. Measures of the first type were tested at Crossett, a lumber town of 2,129 inhabitants in Ashley County in southeastern Arkansas, about 12 miles north of the Louisiana line. Crossett lies in a level, low-lying region at the edge of the so-called "uplands." A large lumber corporation assisted in the antimosquito measures. The details of the work are given, and the same were undertaken at another town, Hamburg, under somewhat more difficult conditions. A further demonstration was made in 1918 in four Arkansas towns, and the results show the possibility of mosquito control and that it pays. Like tests of screening were made, also of immunizing carriers, and immunizing doses generally, in other communities. The conclusions are that in an average town of 1,000 inhabitants or more, with a reasonably high infection rate, malaria control by antimosquito measures is economically favorable; in fact, a sound business investment. In heavily infected regions, where the cost of mosquito control would be prohibitive, the amount of malaria may be greatly reduced by screening, immunizing quinin or destroying the parasite in carriers, and justify the hope that with the systematic application of these measures the malaria can be held within reasonable bounds, within limits of cost that the average community can afford. It will be prepared to provide the funds when the results are shown and the continuation of demonstrations is advisable. The article is illustrated.

THE TONSIL AND INFECTION.

Certain studies of the tonsil in relation to infectious processes are the subject of a paper by D. J. Davis, Chicago (*Journal A. M. A.*, Jan. 31, 1920). An interesting point to start with is the distribution of lymphoid tissue which is specially accumulated in the palatine tonsils and in the ileocecal region. These accumulations seem to be a protective mechanism against pathogenic organisms, more against some than others, and it may break down entirely in some cases. Another point noticed as of importance is the surface area of the tonsils, which Davis has attempted to measure, and finds it roughly averages about 25 square cm. Another feature of significance is the distribution of plasma cells, which, generally speaking, indicate chronic inflammation or irritation, and therefore must be regarded as pathologic. Their time of appearance, distribution, tendencies, etc., were studied by Davis. He disputes the statement that the bacterial flora is abundant and varied, as he finds that not every germ that enters the tonsils will develop there. He sums up his conclusions from the study as follows: "In order to understand clearly the genesis of certain diseases, it is necessary to study intensively a suspected focus of infection, like the tonsil, in both normal and infected persons. Lymphoid structures attain two maxima of distribution; one in the throat and another in the region of the ileocecal valve and appendix; these maxima correspond in general to the normal distribution of bacteria in the alimentary canal. At these points also the greatest number of pathogenic micro-organisms attack the body. Plasma cells appear shortly after birth (therefore after infection) under the mucosa, and their presence probably indicates chronic absorption of infectious and other material. Certain organisms injected into the crypts of the tonsils disappear in a few days. The flora normally found in the tonsils is a restricted one. Actinomyces-like granules composed of fusiform bacilli, streptococci and spirochetes growing together appear as more or less normal inhabitants of the crypts. Here may be an important source of *B. fusiformis* in certain infections about the mouth caused by this organism. In the tonsil crypts, *Streptococcus hemolyticus* is almost constantly found. This focus is one source of these organisms in the throat and adjacent structures. This fact must be considered in making throat cultures and in a study of the problem of hemolytic streptococcus carriers."

THE RELATION OF THE TONSILS TO SYMPTOMATOLOGY AND OTHER CONDITIONS IN THE BODY.*

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In considering the relation of an organ to symptomatology and other conditions we may study it from several standpoints. 1. The effect of hyper- or hypo-production of internal secretions. 2. The role of the organ as a harboring place for bacteria with the absorptions of the toxic products of such bacteria and as a distribution point of bacteria to other parts of the body. 3. The effect of the lack of the function of this organ on the remainder of the organs that form the system to which the particular organ studied belongs.

If we approached the tonsils from these standpoints, we can almost eliminate the first one, for the reason that so far as is known the tonsils produce no internal secretions, although there are indications that they may. For example, the symptoms and conditions that accompany and follow hypertrophy of the pharyngeal lymphoid tissue can hardly be explained on the basis of the effect on the breathing alone. But up to the present time no attempt has been made to determine whether or not the tonsils produced an internal secretion, so for the purposes of this paper, that point will not be discussed. So far as the lack of function of pathological tonsils is concerned, there is sufficient lymphoid tissue in the body that the presence or absence of the tonsils would have as little effect as trimming the finger nails would on the general condition of the body, and we will have to wait until someone has established the function of the tonsils apart from that of the lymphoid tissue in general before we will be in a position to intelligently discuss their lack of function and the effect on the body. Therefore, we are confined to one line of investigation, namely, the relation of the bacteriology of the tonsils to other conditions in the body.

In taking up this study, the first thing to determine is the bacteriology of the tonsils. This subject has been studied from time to time by pathologists and bacteriologists with various ideas in view. Crowe, Watkins, and Rothholtz¹ studied the tonsils bacteriologically in 1,000 cases of tonsillectomy with the idea of ascertaining the after-effect of the tonsillectomy on the condition of the patient that suggested the tonsillectomy. Nichols and Bryan² studied the bacteriology of the tonsils with regard to the role of the tonsils in general ward infections. Pilot and Davis³ studied the bacteriology of the tonsils from a laboratory standpoint. But none of these workers attempted to correlate the bacteriology and symptomatology in any given case or set of cases and their conclusions will be discussed in their proper place later in the paper.

Last year, studies were made in St. Anthony's laboratory to ascertain whether or not there was any demonstrable relation between the bacteriology and the pathology of the tonsils and conditions in other organs, or of the system as a whole.

Before taking up the discussion of the bacteriology of the tonsils, it may be well to remind you of the anatomy of the tonsils. The principal point in this consideration is the presence of the deep crypts in the tonsils that have no way of emptying themselves or of being emptied except by the formation of gas at the bottom of the crypts or in the massage incident to swallowing. Further, that these crypts are always filled with food particles and cell detritus and bacteria.

Rosenow, Nichols and Bryan, Pilot and Davis,⁴ studied the bacteriology of the tonsils only with regard to the occurrence of streptococcus hemolyticus and they concluded that these organisms were present in the tonsils of about eighty per cent of all persons from five years up. Rosenow macerated the tonsils and

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studied the filtrate so there was no differentiation between surface contamination and that deeper in the organ. Nichols and Bryan studied the tonsils by surface swabs and material from the crypts. Pilot and Davis cut the tonsils open and collected material from the crypts. This method carried the surface contamination deeper so that there was no assurance that they really got at the crypt condition, and were it not for the confirmation of the work of others, their conclusions could not be taken as representing the real condition of the tonsillar crypts. However, the work of these investigators is mutually confirmatory and their conclusions that the tonsils are harbingers of streptococcus hemolyticus can be accepted. The further conclusion of Nichols and Bryan that "The tonsils are the principal foci of infection with streptococcus hemolyticus, and that excision of the tonsils is very important in keeping wards free from streptococcus infections," is valuable.

Crowe, Watkins and Rothholtz studied the tonsils with regard to all forms of bacteria, and while they do not give any exact figures as to the number of each kind that were found, they do give the percentages of the different pathological conditions in other parts of the body caused by different kinds of bacteria, for example they state that among colored patients the tonsils of 7.9 per cent were tubercular, and among white patients, four per cent were tubercular.

In our own series the bacteriology of the tonsils were studied by collecting material from the depth of the crypts by the aid of sterile platinum loop without in any way contaminating this material with the surface, and also the bacteriology of the centers of the tonsils was studied by cutting the sterilized surface and obtaining material from the depth of the organs. These studies were made on all tonsils without regard to the reason for the tonsillectomy and the relation, if any, between the bacteriology and the symptomatology was made by a study of the bacteriological results and the case histories. Further, we attempted to ascertain all forms that were present. Our results differ materially from those of other workers quoted above. We found the following organisms: Staphylococcus albus in all but one case. Staphylococcus aureus in three cases. Pneumococci in three cases. Bacillus influenza in one case. Gram positive bacilli in seventeen cases. Gram negative bacilli in nineteen cases. Tubercle bacilli and streptococci in no case. The absence of streptococci in our series and the overwhelming presence of this form in the reports of the other workers might be explained on the basis of difference in technique, and would seem to indicate that while streptococcus hemolyticus were almost constantly present on the surface and in the mouths of the crypts, they were absent from the depths of the crypts when the latter were not contaminated from the surface, or it may possibly be due to the difference in the environment of the cases in the different series.

One point that we attempted to make out that other workers have not reported, is the number of bacteria per unit of material from the tonsils. We found that the average number of bacteria per cubic millimeter was: crypts, 1,624,680, and centers 1,216,956. The maximum numbers were: crypts 4,176,000, and centers 3,712,000.

To sum up the bacteriology of the tonsils, we find that they are swarming with bacteria, that they are infested with all of the ordinary pathogenic bacteria and cocci, and that these bacteria are located not only on the surface, but more important still, in the depths of the crypts from which location they can easily be carried to other parts of the body and from which their toxins and metabolic products can be removed almost only by absorption into the blood.

As to the occurrence of conditions in the body that can be referred to the absorption of toxins, there were in our series neuritis and myositis in 34 per cent of the cases, and kidney disturbances in 13.8 per cent of the cases. With regard to the kidney disturbances, the above figures do not give all cases for the reason that kidney involvement may be quite extensive without giving any clinical manifestation unless this were specifically looked for, that is, the patient would not complain of symptoms.

As to the role of the tonsils as foci of infection from which bacteria are spread

to other parts of the body, our series contained the following conditions that could be directly traced to the tonsils or could have come from the tonsils: Throat lesions other than tonsillitis, 50 per cent of the cases. Infections of the ear, 33 per cent of the cases. Pyonephritis one case, and acute ulcerative appendicitis one case. In both of these cases the tonsils had been affected for a long time and showed a high bacterial content. If we add to these the findings of other workers, first, that the tonsils are the principal focus of infection of streptococcus, and second, that such conditions as diphtheritic sore throat, acute arthritis, acute endocarditis, and focal infections due to hematogenous inoculation of various parts of the body, we must conclude that the tonsils are a very important source of general infection and that they thus play a very important role as a gateway to the body.

Just what the relation of the tonsils in tubercular infections is we do not at present know. The relatively low percentage of tubercular tonsils reported in the work of Crowe, Watkins and Rothholtz gives no indication of the frequency of infection by this bacillus through the tonsils for the reason that, as has been proven, the tubercle bacilli pass through the mucous membranes and are carried to other parts of the body without leaving any trail behind, so that it is safe to say that in all cases of tuberculosis with enlargement of the cervical lymph nodes, the bacilli have passed through the tonsils, and we know not how many more cases there are in which the infection has gone this route.

So we see that it can be definitely proven that both as a source of absorption of bacterial toxins, producing symptoms of a specific or systemic nature, and as a breeding ground for bacteria from which infection is spread to various parts of the body, the tonsils play a very important role and that a great many infectious conditions of other parts of the body can be traced to tonsillar infection.

Bibliography:

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2. Nichols and Bryan, Jour. of the A. M. A., V. 71, No. 22, pp. 1813 ff.
3. Pilot and Davis, Journal of Infectious Diseases, V. 24, 1919, pp. 386 ff.
4. Rosenow, Journal of Infectious Diseases, 1915-17, pp. 402 ff.

DISCUSSION.

Dr. Lea Riley, Oklahoma City: I have not had a chance to see Dr. Turley's paper, consequently I offer that as my apology. This is a paper, however, that is very much needed. We have been doing a great deal of tonsillectomy and work of that kind without the proper correlation of the symptoms and pathology. We note Dr. Turley has said there are three avenues of infection by way of the tonsils. In the first place they are peculiarly situated, furnishing moisture, air, etc. We found in the army so many cases of streptococcic infection of the tonsils. We found pneumococcus and different kinds of germs.

There are two ways that infection can take place from the tonsils. First: The material out of the tonsils being swallowed with the food. In this way it is mixed with the food and necessarily very materially changes the form of the food and makes a great deal of change in our diagnosis. We find that mixed with the food it will go into the intestines. We find lots of cases of digestive troubles that are relieved by removing this cess pool, as Dr. Hatchett said, this "den of iniquity."

Another source is that of inhaling these different germs. Pneumonia is a bronchial infection. It does not come from the blood. You can inject pneumonia germs in the blood and you will not have pneumonia. You will find that your blood feature is shown in lots of cases who do not have pneumonia. Our prognosis is often governed by the blood feature.

Dr. M. S. Gregory, Oklahoma City: I am very much pleased to hear this paper. We do not think so much about it until this comes home to us. A few weeks ago my eldest son showed focal infection. We removed the tonsils and for

three weeks there were no jokes passed around our house. That was pure streptococcus.

Dr. Turley: I want to thank Dr. Riley for bringing out one point and that was the matter of swallowing the material in the crypts. This material is swallowed sometimes and goes down with the food and a great many cases of appendicitis and streptococcus in some form, not altogether streptococcus, is the result. One other spread is by surface where they spread to the ear tubes. I think removing the tonsils at random, that is, cases of ear trouble, is rather a significant thing.

Dr. D. D. McHenry, Oklahoma City: I would like to ask, in those locations where you found a large number, were they in tonsils that were supposed to be infected, or that were supposed to be normal?

Dr. Turley: They were both. That is, some were supposed to be cases of acute tonsillitis, others not. We found this by studying all the tonsils. We measured them accurately in all cases; our conclusions were on that point that you couldn't tell anything about the conditions within the tonsils by looking in the throat, unless there was an inflamed area around them. We found high bacterial content, and changes within the tonsils which indicated rather intense inflammatory conditions wherein the surface of tonsils as you looked at them in the throat, the tonsils appeared small. Ages varied all the way from three to thirty-nine years.

Dr. L. H. Buxton, Oklahoma City: May I ask you if these tonsils examined were all supposed to have been diseased?

Dr. Turley: They were all tonsils that were enucleated, but they were removed for all sorts of reasons. One man had a pain in the left ischial tuberosity, the doctor removed the tonsils for him, they were removed for all causes, some of them removed in course of operation for other conditions.

Dr. W. E. Dixon, Oklahoma City: Might I ask you if any of the records show the following up of the results that were obtained from the patients, do you know?

Dr. Turley: Well, that is just the data that I wanted to present to this meeting that I haven't got, Doctor. I am just working on it and hope to report it in the Journal later. I have been after these men, and as I say, one of them who had a large percentage of the cases, handed me his report only last night, so am unable to give it to you.

Dr. E. S. Ferguson, Oklahoma City: Have you examined any one tonsil without finding bacteria?

Dr. Turley: Not one. The least number I found in any one, Sir, were hundreds of thousands. One, a very small pair of tonsils, had an office tonsillectomy when she was 29, her tonsils showed only ten thousand per cubic millimeter. You have to multiply that by ten for the centimeter.

Dr. W. T. Salmon, Oklahoma City: I would like to ask the doctor if he has ever made any examinations of membranes of the pharynx and buccal cavity?

Dr. Turley: No, we didn't make any. That is, except as a routine matter. We didn't in any of these cases.

Dr. Salmon: I just wondered if you had ever done that, and the amount of streptococci that might be found in the buccal and pharyngeal wall. That would be interesting to know.

Dr. Turley: No. These workers I quoted did. For instance, Ryan and his co-worker who were in the army hospitals, examined the naso-pharynx as well as the tonsils. Their results show that approximately 80 per cent of all streptococcus infections in the mouth and buccal cavity and that region near the tonsils were infected. We have studied cases of streptococcus involvement in which the naso-pharynx was sterile in which streptococcus was concerned and had very few bacteria of any kind; but personally I have never made a study of it.

Dr. A. L. Guthrie, Oklahoma City: I would like to ask the Doctor one question, about the debris in the crypts. Is there always pus when you have the debris, for instance, you squeeze a tonsil and you get a cheesy mass; is there always pus in that, or is that sometimes sterile?

Dr. Turley: It is never sterile, Doctor. But the condition is this; that in those crypts, that cheesy mass you get is composed of decayed food material, worn out epithelial cells and bacteria, largely. Now, if I had—if you have the complete record of this in which I take up all the pathology of the epithelial crypts and the surface, you would see how that comes about, but the majority of cases where you squeeze the tonsil and get the material from the crypts, it is not pus, but it is undigested food material and bacteria.

The reason it looks pussy in some cases and cheesy in others, is that an extra edema occurs which renders the mass more liquid than at other times; it means there is a flood of material; but actual pus in the tonsil, that is relatively rare. The material called pus is not pus, that is, according to the definition of pus.

Dr. R. O. Earley, Ardmore: I am extremely interested in this. It seems the methods of Dr. Turley and others have been entirely different. Last year at Camp Travis, for my own satisfaction, I took a series of fifty cases and run them, all surface smears. I found eighty per cent with the streptococcus hemolyticus, but I didn't go into the crypts. The Doctor finds it exactly opposite in the crypts. So that there doesn't seem to be much connection with the streptococcus hemolyticus and the crypts themselves. I am mighty glad to hear this paper.

Dr. Turley: What we did was to take a sterile platinum loop, take the material from the surface, throw that away, re-sterilize the needle, and then cut down in the material and get it. Then we would smear the surface of the tonsil before we made our incision, cut down and take the material in the crypts; we did not find streptococcus in any, although we looked for it in every case.

Dr. M. K. Thompson, Muskogee: In proportion to these troubles, this matter of bacteria and material you found in these tonsils in these crypts and so on—was the infection more magnified or worse where you found the higher amount of bacteria—was any record kept of that?

Dr. Turley: Yes.

Dr. Thompson: Did it show a greater amount of trouble from rheumatism, or more joint trouble, and such things as that, where you had the larger amount?

Dr. Turley: This is a condition. That statement cannot be made categorically, Doctor. Here is a patient with a tonsillar condition and rheumatic symptoms in which his tonsil, actually, bacteriologically and pathologically, wouldn't look as bad as some without those symptoms. The reason for that is, if you will study the pathology microscopically, of rheumatism, you will find fibrous and the hemorrhagic degeneration of the stroma which indicates that it has been undergoing changes for a long time, a rather intense inflammation, whereas in the other case the bacteria have gotten a sudden impulse and for a short time might have developed in greater numbers. This is what we did find in cases of rheumatism. We always found conditions indicating a long standing inflammation of the tonsils, that is, hypertrophy and degeneration of the stroma in these cases.

Dr. Thompson: What I was getting at was this: In making examinations, before removing tonsils, where you have had trouble in the joints, are we justified in removing the tonsils?

Dr. Turley: Yes.

Dr. Thompson: I mean, with the bacteriological examination?

Dr. Turley: Yes, or without it, either.

Dr. Thompson: Without it?

Dr. Turley: Yes.

Dr. L. A. Newton, Oklahoma City: Doctor, in practically all tonsils, in the crypts you find this bacteria?

Dr. Turley: Every one of them.

Dr. L. H. Buxton, Oklahoma City: I remember reading something on the application of this matter, and have been trying to think what man of Harvard Medical College it was who wrote a small work and devoted a considerable amount to the tonsils.

A Member: Farnam.

Dr. Buxton: He advanced a theory in reference to the physiology of the tonsil, stating the fact that the tonsillar ring develops at an early age, in infancy and early childhood, and then begins to decrease. He concludes that it is there for some purpose during youth and early childhood. The tonsillar ring, we know, begins to atrophy and is a fossil tonsil at fourteen or fifteen years of age, the pharyngeal tonsil earlier than that, at nine or ten years of age. He says this; that he believes it to be a laboratory for generating anti-toxins for the body of the child. In other words, in the tonsillar ring are generated anti-toxins, and of course, if that is true, and I see no reason why it might not be, he goes on to say that under those conditions only tonsils which are pathological, or are producing some pathological result, should be removed, that indiscriminate removal of tonsils is to be condemned, simply because of the fact that he considers the tonsils a physiological factor in early life.

Dr. Turley: I am very glad that Doctor Buxton brought out that point because I want to correct a misapprehension that is abroad with regard to tonsils. This atrophy of tonsils as a person gets older. Our patients ranged all the way from, I think it was either three or four years, to forty-one years, and perhaps with the exception of a number of terminal centers, I defy anybody to put those under the microscope and from the size of the section to tell whether one was four years old or forty. They don't atrophy and they don't disappear. The thing that makes it appear so is because the other tissues grow larger around them, but so far as the tonsillar tissue itself is concerned, they do not atrophy. You will find active terminal centers, we did, in tonsils of people forty and forty-five years old. I have seen them at St. Anthony's and in the series we ran. We did find degeneration of stroma in the tonsil of a boy seven years old, the youngest case in which we did find it.

Another thing, about anti-toxins: Just where anti-toxins are formed, nobody knows. The indications are, from the chemistry and the activity of these various cells, that anti-toxins are not formed by the white blood cells, any of them, so far as we know. The function of a tonsil is that of a lymphatic cell, and is rather of metabolism than of neutralization. Just to give you an illustration: the evidence is that the anti-bodies in cases of tetanus and diphtheria are manufactured by the cells of the central nervous system. So far as tetanus itself is concerned the action of the normal nervous system will act as an anti-toxin. It has been proved in animals without ever having had a previous inoculation. Whereas, you take the central-nervous system of an animal like a crocodile, it doesn't. It is not susceptible and will not act that way. As I say, we don't know definitely where anybody has found any of them, except just indications here and there. Of course, we will agree with this man that the tonsils are there for some purpose, either present or past, that we may not need them at the present time. We don't know. It appeals to me more that the lymphatic tissue does have an internal secretion which at present we know nothing as to what it is, that the tonsils being one of the large collections of lymphatic tissue, will, of course, play a rather important part. We know, for instance, the thymus which has a lymphatic character, evidently produces an internal secretion. But I wish you all to get out of your heads that the tonsils atrophy and grow smaller as the patient grows older. We had one case in our experience, a woman whose tonsils were removed at 29 and who had good sized tonsils at 39, and they were removed a second time.

Dr. R. W. Dunlap, Tulsa: We would like to standardize the removal of tonsils, and I would like to ask the Doctor after his study, if there is any way of telling what tonsils ought to be removed and what not. Now, in my experience in the past, I have always squeezed out some of this cheezy matter, and if a patient comes in that has a large amount of that in the crypts, I have always believed they had a diseased mucous membrane in the crypt or the crypt would empty itself if it was healthy, because the ciliated mucous membrane, of course, is there to empty it; as soon as it fills up, I believe they are diseased. That has been my idea. Maybe I am wrong. Is there any way we can standardize this matter? Some do one thing from their ideas, and some another thing. Can we standardize or can you advise us from your study of these cases whether we should advise people to let their tonsils alone unless we have some definite distinct disease, like rheumatism, headaches or what not; shall we advise them to take them out, or let them alone?

Dr. Turley: Well, as I said a while ago, you can't tell anything about the pathology of the tonsils by looking at them in the throat, outside of an inflammation that is severe enough to cause a hyperemia of the region. You can't tell anything about the size of the tonsils as they appear in the throat. We had a case of removal wherein they were so large that the patient could hardly breathe during sleep. These tonsils, when the tissues relaxed, would almost flop back and close his naso-pharynx, and yet by actual measurement they weren't a bit larger than some that the history gives as submerged. These happened to grow out farther, that is, the back edge of them was nearer the surface.

The material squeezed out is an indication. If the material that you squeeze out is cheezy, all of it is cheezy. It means, we are not dealing at the present time with an acute edematous condition of the tonsil. If it is more liquid, it does mean that there is at the present time or is existing now an edematous condition which tends to liquefy the mass because of the exudate.

In the light of these studies, I am not laying this down as a law, because I would not attempt to do it on the number of the series, but from the studies I have made of the tonsils, I would say, unless there is some reason for removing them, let them alone. That is, if there are not symptoms that you can pretty definitely trace either to absorption of bacteria from the tonsils or an infection which is metastatic, suspected as coming from the tonsils, let them alone.

Dr. A. W. Roth, Tulsa: I would like to ask if your studies touched upon existence of any selective affinity with reference to the histories of the given cases?

Dr. Turley: What do you mean by selective affinity?

Dr. Roth: Some investigator, I forget just who, put forth the idea that in certain circumstances a given culture will have an affinity for certain tissues, and under certain other conditions it may have an affinity for a certain other class of tissues, histologically speaking, and therefore might be a thing that would have an effect in one class of cases and would not in another class of cases affect it any. Did you touch upon that?

Dr. Turley: From my bacteriological experience, I would say that this is very interesting if true. That a particular organism would have an affinity today for instance, for sub-cutaneous tissue, and tomorrow for something else; I never saw the slightest indication of that. I will not say that it is not true, understand, but I have never observed it.

LUNG ABSCESS AFTER TONSILLECTOMY.

Logan Glendening, Kansas City, Mo., maintains (*Journal A. M. A.*, April 3, 1920), that lung abscess is at present a frequent sequel to tonsillectomy. It occurs in all classes of cases—in private as well as free services. It is sometimes fatal, always serious and often very crippling. It is due in some cases to inspiration of infected material. Motor-driven anesthesia apparatus, by creating a positive pressure in the pharynx, may operate as a cause. At any rate, the danger is sufficiently great to justify the discontinuance of their employment until comparative data can be secured. It is due in some instances to metastatic infection through the lymphatics. Swabbing or tampering with the throat after enucleation has been accomplished is the cause of one group of cases.

SUMMER DIARRHEA.*

C. V. RICE, M. D.

MUSKOGEE, OKLAHOMA

Summer diarrhea is described by Finklestein and his followers under two headings: first, the mild or dyspepsia; second, the severe or intoxication, or as it is called by our American writers, gastroenteritis, ileocolitis, and cholera infantum. Finklestein made a clinical study of this condition and described the baby as extremely poisoned. Not that he isolated any toxins but, from the severe clinical symptoms, he called it intoxication. This severe form is caused by two main factors: (a) Improper food or some bacterial action on the food. (b) Bacterial infection.

Under the improper food, there may be a combination of the improper food elements or the infected food with a bacterial action on the fats and sugars, thereby forming toxic bodies. The bacterial type may be due to and divided into three main classes. First, the dysentery bacillus; second, the gas bacillus; third, the streptococcus, colon bacillus, and the bacillus pyocyaneus.

It may seem strange but at Chicago, diarrhea is mostly due to some form of food disturbance, while at Boston, to one of the bacterial group. This is probably due to the fact that at Boston they have been advocates of raw milk feeding, while at Chicago they use the boiled milk. The non-boiling will, no doubt, explain the infectious type.

At this time we will take up the infectious form and will leave the type due to improper feeding until the last, as it is most common in this country, and we will go more into detail with the treatment. The prognosis of the infectious type should be considered very serious from the start and we must expect death in the majority of our cases. However, knowing that a few recover, we should keep these few in mind as a stimulus, hoping that our little patient may be one of the few. The pathological lesions are usually limited to the large intestine and to the last two or three feet of the small intestine. There may be only simple inflammation or there may be a mild, or a deep ulceration of the solitary follicles and the Peyer's patches. Mucus and blood soon appear in the stools and after a day or two they are composed entirely of it. Pain in the abdomen and tenesmus appear early. The temperature is a constant one and lasts throughout the active stage, having no intermission or remission. The temperature and symptoms do not respond to the starvation diet but run a more typhoidal course. So much so that some authorities claim that it should be treated along the same plan.

In making a diagnosis, it is not only necessary to make a differential diagnosis from the food intoxication, but also from the type of micro-organism that is the exciting cause. With the food intoxication, a starving period of twelve to twenty-four hours, with plenty of fluids will bring the temperature down to normal and if the proper treatment is instituted from here, there will not be a secondary rise. If the diet is not considered, there will be a rise which is termed "Paradoxical reaction of Finklestein." With the infectious diarrhea, there is no change in the temperature following the starving period and this should put us on our guard. The symptoms give us no bearing whatever as to the type of organism. With the exception of the stool of a peculiar green color, caused by the bacillus pyocyaneus, the character does not enlighten us any. By the addition of a few drops of nitric acid to this stool the green color will disappear, but if it is due to bile we will get the characteristic color of Gimlen's test with nitric acid. If the streptococci are the exciting cause, they can be found in large numbers by the microscope. There is no simple practical test for the bacillus dysentery and a well equipped laboratory is quite necessary for its determination, however, we can make a probable diagnosis by the finding and excluding of other organisms. On the other hand, the technic for determining gas bacillus is quite simple and can be carried out by any practitioner in any place. A small portion of the stool is added to a

*Read before McIntosh County Medical Society, at Checotah, July 6, 1920.

test-tube of milk and this is placed in a water-bath where it is brought to a boil and is held for three minutes. All of the bacteria that are not in the stage of spores are killed, while the gas bacillus are not killed by the boiling as they are sporogenous. The test-tube is incubated at body temperature from eighteen to twenty-four hours. The man who does not own an incubator may carry the test-tube with him in his inside vest pocket. If gas bacillus is the exciting cause, 80 per cent of the casein is dissolved and the remaining casein is pinkish in color, filled with holes and has the odor of rancid butter. A few gas bacillus do not indicate that they are the cause of the disease. We should make every effort to find the exciting organism, as the plan of treatment in infectious diarrhea depends upon the type present.

If we see the case early—that is, in the first ten or twelve hours, we put our patient on a starving diet for twelve to twenty-four hours, giving plenty of water or a weak tea solution. To encourage the baby to take more of the fluid, we may add saccharin, one grain to the quart. Castor oil is given at this time and the lower bowel is irrigated with a normal saline solution. The fever is taken care of by cool sponging, and if the fever and general condition are not improved within twenty-four hours under this plan of treatment, we can exclude food intoxication and think of infectious diarrhea.

We should now start our investigation, as the success of our treatment depends upon the type of organism involved. The dysentery bacillus, the colon bacillus, and the streptococcus are classified as facultative bacteria. They thrive on either carbohydrates or proteins but produce harmless products from carbohydrates and toxic products from protein. Therefore, when we have a dysentery due to the facultative type, carbohydrates should be the important diet. Lactose is the best, as it is more slowly broken down, more slowly absorbed and is a carbohydrate medium in the intestine for a longer time than the other sugars. Lactic acid is formed from milk sugar and this is quite important, as it has an inhibitory action on the growth of dysentery bacillus. After twenty-four hours of lactose diet, it is well to add barley water for another twenty-four hours. Protein in the form of casein must be added to the diet as soon as there is any sign of improvement, as this overcomes protein waste. Drugs are used to handle the various symptoms and for that purpose only.

The more common forms of diarrhea are due to improper diet. The dyspeptic baby is not a sick patient but one who is fretful, pale, underweight, skin is flabby, and he may have eight or ten green, watery, mucus stools a day. He may or may not have a temperature, he vomits several times a day, has colic, his consciousness is not disturbed and he responds to dietary treatment very readily. It is seldom necessary to have him on a starving diet longer than six hours and if he is under two months old, he should have human milk. Even with human milk it is necessary to start the feeding with diluted and restricted amounts. Babies older than two months may do well on artificial diet, but we must be very careful in this or our simple dyspeptic will terminate into one of intoxication or decomposition. An older baby may be on a starvation diet with plenty of fluids for twelve hours and on the second day have a boiled mixture of one-third whole milk and two-thirds water with no sugar. We cautiously add 1 per cent of dextrin-maltose, which is less fermentable, and gradually increase to 5 per cent. About every second day we add three ounces of milk to the total until we have reached the maximum. In this we allow the baby's improvement and weight curve to be our guide. The baby will have an extreme toxic condition if the mild form has not had the proper food consideration. This happens if we have given it a high whey mixture or milk rich in fermentable carbohydrates, which increases the acid formation, and in this acid medium, bacteria flourish. They attack the fat and produce severe irritants to the intestinal wall, allowing undigested food to pass the membrane into the body, which causes the severe form of food disturbance (intoxication), with its multitude of clinical symptoms.

These symptoms are a high fever—104 to 106, disturbed consciousness, convulsions, strabismus, rapid loss in weight which is due to the loss of water from the tissue, and a cerebral cry which may suggest meningitis. The skin is dry and inelastic, the stools are frequent, liquid and mucus, and may contain blood; tenes-

mus is generally present, giving the child more or less pain and vomiting is frequent. The face has a fixed expression, the baby lies in one position with more or less nervous symptoms, and the breathing is deep, rapid and without pause. This type of breathing, with dark red lips and a deep stupor, are signs of acidosis. Sclerema may be present, which is due to the coagulation of tissue fluid of unknown nature. The prognosis is bad, and if the baby is saved it will be due to the use of human milk, starting with a weak mixture. Due to the toxic condition, the heart action is weak and the pulse small and irregular. Collapse is often seen and the skin is gray hue, the eyes are sunken and the face has a pinched expression. This calls for an active stimulation, such as a hot mustard bath, two or three minims of adrenalin, hypodermatically repeated every two or three hours, which can be followed by brandy fifteen drops every three hours and caffeine sodium benzoate one-quarter grain every three hours. The urine is small in amount and contains albumen cast and sugar. The kind of sugar in the food is the kind that appears in the urine. Leukocytes are present up to 30,000. There is one thing to remember, and it is that we are not only dealing with a local bowel condition but also with one of a general toxic condition and it is that which kills.

In treating intoxication, we first put our patient on a starving diet for twenty-four hours, giving plenty of water or weak tea to which is added one grain of saccharin to the quart to encourage the intake of the fluid. Do not give a laxative unless the trouble is due to corn, cucumbers or watermelon and then give one dose of oil, followed by a colonic flushing. One dose of oil is all that is necessary, as purgatives are irritating to the bowel and what we need is not more action but more rest. Further purgation increases the loss of salts and water from the body and increases the tendency to the development of acidosis, which is the cause of many of our deaths in these cases. The muscular coats become fatigued from the over-activity of the bowel and we get loss of tone, resulting in distention. Calomel should not be given for an antiseptic action on the bowel, as there is no drug that will make the intestine sterile. It is too irritating at this time and causes blood to appear in the stools. This is one condition where the diet is the important factor necessary to bring about a cure and the drugs are used only to combat the symptoms. Sodium bromid is used as a sedative, paregoric when the diarrhea remains uncontrolled by other methods, and adrenalin, caffeine, sodium benzoate, and brandy when we need a stimulant.

Human milk is a life saver with many of our cases. After the first twenty-four hours we must give one-half ounce doses ten times a day, keeping up the fluids of the first day. The next day, increase two-thirds ounce, then one ounce, and then to one and a half ounces. Here we wait and watch the reaction and our weight curve. If it straightens out and the diarrhea improves, we increase with caution, but if there is a decline of the weight curve and the diarrhea has not improved, we hold the diet at one and a half ounces with ten feedings per day. If one cannot obtain breast milk, the next best diet is albumen milk. Due to the fact that it is hard to make in the homes, I have been using diluted skim milk and at this time I am getting better results with the Larosan milk, which is claimed to be in composition, therapeutic properties identical to the standard albumen milk. This should also be used in a small amount at the start, gradually increasing and not forgetting to add sugar in the form of dextrin-maltose.

In conclusion, I wish to emphasize the following points:

1. Do not forget your starving period.
2. Do not forget that the bowels are over working and do not need calomel nor castor oil.
3. If the temperature is not normal and the condition is not improved after twenty-four hours of starving, think of infectious diarrhea.
4. Remember the small doses of food at the start.
5. Think also of the general condition as well as the bowels. Do not starve your baby to death waiting for the bowels to clear up.
6. Remember that the ideal diet is high protein, low whey and non-fementable carbohydrates.

PROCEEDINGS OF OKLAHOMA CITY CLINIC ROUND TABLE, WESLEY HOSPITAL

Dr. Mraz. *Case of Pyelonephritis.*

Mrs. J. P. S., age 38, admitted to hospital June 12, 1920. Family History: Negative except that patient nursed one sister who died of tuberculosis 18 years ago. Personal History: Nothing of importance.

Present Illness: Began in November, 1919, following a fall upon buttock. Since that time patient has had a "sore spot" in lower right abdomen and states that side puffs up at times. A week ago Monday she began having sharp cutting pain in bladder region with passage of large amounts of cloudy urine streaked with blood. Pain then shifted to right lumbar region. Had irregular fever running to 103. Patient has difficulty in controlling urine.

Physical Examination: Negative except for extreme sensitiveness to pressure over bladder region and right renal region, also in appendiceal region and along right ureter.

Cystoscopy: Bladder capacity 200 cc. Bladder mucosa looks normal except for some edema of right ureteral orifice and trigone. Ureters catheterized—no obstruction encountered.

P. S. P. Test: Left, five minutes. Right, four and a half minutes. Patient to x-ray room with catheters in situ. Right renal pelvis injected with 16 c.c. of sodium bromid and pyelogram made.

Urinalysis: Mixed catheterized specimen shows large amount albumen and gross number pus cells. Segregated, left negative. Right, few pus cells. Culture, shows growth of staphylococci in mixed and right kidney urine.

The interesting point in this case of pyelonephritis is the ease with which it might have been confused with acute appendicitis. The patient had had recurrent attacks of right-sided pain associated with bladder symptoms. Bladder symptoms are not rare in appendicitis where the appendix lies adjacent to the ureter causing a secondary ureteritis.

Dr. Stout was called to see the patient and found her with fever, nausea, right-sided pain, rigidity, and bladder symptoms. In other words, it gave a picture of acute appendicitis with bladder symptoms added. The question of operation arose immediately for the symptoms were acute. A urine analysis was made and the urine found loaded with pus. After carefully weighing the symptoms and in view of the urinary findings a conservative course was determined upon. The patient was placed on urotropin in large doses and the urine acidified with sodium acid phosphate. The temperature promptly dropped. The cystoscopy then cinched the diagnosis of pyelonephritis, probably secondary to a cystitis.

Dr. W. W. Rucks. *Case of Streptococcic Septicemia.*

We have in the hospital a boy 12 years old suffering from septicemia, who up to the present has run a very interesting course.

His history is that of a strong healthy child of good parentage and good environment, with no previous illness that would have any bearing on the present illness, which began about two weeks prior to his admittance to Wesley Hospital on June 11, 1920, with pain in the right shoulder and with fever, irregular chills and sweating. The temperature goes at times as high as 104. He was vaccinated three weeks prior to the beginning of this attack.

At the time of his admission a thorough general physical examination was not made, because of the great pain he was suffering in the region of his right shoulder which was swollen and very painful, especially about the right clavicle and the right axillary space. X-ray did not reveal any bony change eliminating osteomyelitis. Septic cellulitis was thought of and the swelling incised. No pus was found. The

wound was closed with drainage, the boy put to bed with hot antiseptic packs and salicylate of soda in 10-grain doses every three hours by mouth. No endocarditis was present at that time and none has developed up to the present time. His white blood count at the time of his admission was 20,000.

He was given 20 cc. of anti-streptococcic serum with 50 c.c of a ten per cent solution of glucose in the vein. By June 27th, the cellulitis had much improved. Temperature was near normal and his general condition seemed better, when he had a hard chill and temperature up to 105. Severe pain developed in the left chest, and loud friction rales were heard over the lower lobe of the left lung. This pleuritis began to subside after four or five days when on July 2 temperature came up high again following a chill and severe pain developed in the right chest and physical examination revealed a pneumonic involvement of the lower lobe of right lung. Severe toxic symptoms followed. Meningismus, restlessness, and failing heart. Digitalis, bromides and codein were used freely, with again a general improvement and at the present time if no new implantations occur, there is hope of this child's recovery.

The symptoms complex is that of a severe constitutional disease. In many cases the general symptoms are simply those of an intense infected process without definite signs of visceral or other localization. In other cases, as in this boy, we have added to the general picture localized involvement, first a cellulitis, then a pleuritis followed by a pneumonitis. The infecting organism is undoubtedly the streptococcus, though no positive blood culture was obtained. The portal of entrance might have been through the vaccination sore on his left shoulder, though this cannot be proven. The prognosis in these cases is very grave and should be given very guardedly.

Dr. A. L. Blesh. *Intestinal Obstruction, Complete, Acute, Mechanical.*

Patient, female, aged 48. Operated upon in February, 1917. Complete supra-vaginal hysterectomy, appendectomy. Health had remained exceptionally good except for an increasing tendency to constipation the last few years.

June 4, 1920, began having paroxysmal abdominal pain for which cathartics were taken. With the liquid stools and passage of flatus following the taking of the cathartic, temporary relief was obtained.

The pain associated with vomiting recurred 65 hours before entering hospital. From this time on obstruction complete. Fecal vomiting occurred 24 hours before entering hospital. Entered hospital June 10, 1920, in apparently surprisingly good condition considering the history. Temperature normal. Pulse 88. Abdomen greatly distended.

Operation immediate and eight inches of terminal ileum found imbedded in dense adhesions. Short circuit with lateral anastomosis to transverse colon made. Condition of patient following operation excellent.

Gradual increasing toxemia came on which deepened to death, which occurred June 13, 1920.

Point to be made is that in an old obstruction, anastomosis *should not be immediate*. This pours the poisonous intestinal contents into the thirsty bowel below where rapid absorption with overwhelming poisoning takes place. Bowel should have been drained *externally* and a two-stage operation done.

Dr. Paulus. *Case of Brain Tumor.*

Farmer, male, age 26. Married.

Family History: Father living and well at 54. Mother died of "hemorrhage of bowel." Maternal grandfather died of carcinoma of stomach. No tuberculosis in family. No history of neurosis in family.

Personal History: Had usual diseases of childhood with good recoveries so far as father knows. Never had convulsions. Entered military service October

19, 1917. Was slightly gassed while in France. Discharged June 18, 1919. While in army was in hospital for about three months in spring of 1919 on account of "fainting attacks," never lost consciousness. No history of injury to skull at any time.

Present Complaint: Had first real attack October 7, 1919. Father and wife state that patient had slight twitching of face, first followed by unconsciousness and generalized convulsions. Never foamed at mouth. Has had repeated attacks since from once a month at first to every two weeks now. No aura, except perhaps slight twitching of facial muscles. Attack of unconsciousness is followed by tired feeling and deep sleep. Thinks vision is not as good as formerly. For past several weeks has had slight frontal and occipital headache.

Physical Examination: Eyes—Pupils equal and regular. Both react to light, although slight sluggishness present. React to accommodation. Sclera clear. Tonsils submerged. Post cervical glands slightly enlarged. Reflexes all present. Patellar brisk. Slight paresis left side of face. Ataxia mild. Romberg positive. Motor muscles. Eyes O. K.

Laboratory: Urine—Specific gravity 10.25. Entirely negative. Blood, Wassermann, negative.

June 29, 1920. Spinal fluid cell count 3. Globulin negative. Wassermann 1 cc. and 1-3 cc. negative. Gold chlorid negative. Fluid rendering considerable pressure. 35 cc. removed.

Second. July 10, 1920. Spinal puncture. Fluid under normal pressure.

Progress of Case: Two days after entrance patient began to complain of intense headache, frontal and occipital, continuing day and night, not relieved by asperin or phenacetin. Bromides and chloral hydrates were given to procure necessary rest with only partial success. After three days patient was then put on K. I. Patient vomited several times on sixth and seventh day after entering hospital.

An x-ray examination of skull was made and the sella turcica found normal. No erosion of skull bones. Dr. Macdonald examined his eye grounds and I will let him report his findings.

Dr. Macdonald: His pupils are equal and regular, and both react to light. His vision is V. O. D. 10-30 and V. O. S. 10-30. Fundi examination shows both discs to be swollen and the outlines of discs obliterated.

Dr. Paulus: I believe we are dealing with an increased intra-cranial tension in this case—probably due to a brain tumor. The localization of this tumor is still a question. But we shall watch for further evidences and report our findings at the next meeting. I think this is a very similar case to the one we demonstrated about four months ago.

MOSQUITO CONTROL.

New Jersey's work in mosquito control is described by W. E. Darnall, Atlantic City, N. J. (*Journal A. M. A.*, Sept. 6, 1919). New Jersey has had an unenviable notoriety because of its mosquitoes, but conditions are no worse there than in other seaboard states bordered by extensive salt marshes. The pioneer in the scientific study of mosquito control was the late Dr. John B. Smith, State Entomologist, whose work caused the most perfect organization against the pest, anywhere in the world. Darnall describes the success of the work in the neighborhood of Camp Merritt, an embarkation camp to which the government was enabled to send millions of soldiers without the development of a single case of malaria. Of the forty different species of mosquitoes in New Jersey, practically the only ones of economic importance are the house mosquito and the malarial anopheles group. The real problem is to rid the state of *Aedes sollicitans* which at times makes life miserable for nearly half the population by reason of its long flights from the sea coast. About 16,000,000 ft. of 10 by 30 inch ditching (about one-third of it in the County of Atlantic) have been cut in the salt marshes, of which there are about 296,000 acres in the State—about one-half the work that needs to be done. In the next five years the rest of the marsh lands will be drained, and then New Jersey will be able to say that the mosquito pest is conquered. The per capita cost to the population protected, thus far, is about 15 cents. After the work is done the maintenance of it is of supreme importance, and the annual cost of this has been estimated as averaging about thirty-five cents per acre. The organization of the county units for this purpose is described. With intelligent co-operation and intensive study of the subject to meet the engineering problems, the drainage in many communities, it is thought, can be done with comparatively small expenditure. The article is illustrated.

PROCEEDINGS OF THE ST. ANTHONY CLINICAL SOCIETY.

DR. CURTIS R. DAY, President.

DR. J. F. KUHN, Secretary.

OKLAHOMA CITY.

DEATH REPORTS.

Dr. R. S. McCabe. *Lobar Pneumonia. Carcinoma of Stomach. Encephalitis Lethargica.*

Mr. G. A., laborer, age 73, white. Entered hospital April 18, 1920. Complaint: 1. Pain in left inguinal and lumbar regions, the latter radiating to the right shoulder. 2. Cough. 3. General weakness.

Past History: Negative.

Physical Examination: Fairly well nourished male, somewhat depressed. Skin dark brown and dry. Pupils irregular and very sluggish to react to light. Tongue coated dark brown. Pyorrhea. Right cervical lymph nodes prominent. Dulness in interscapular regions and over base of right lung, posteriorly, with fine moist rales. Heart slightly enlarged, and mitral regurgitant murmur. Palpable, hard, fixed tumor mass in region of pylorus. Temperature 102 F. Pulse 100. Laboratory Findings: Blood: W. B. C. 11,500, polys 85, lymphs 12, other cells 3. Other findings negative, including blood and spinal fluid Wassermann.

Progress: Diagnosis of lobar pneumonia and carcinoma of stomach made; patient put to bed; sodium bicarbonate drip and digitalis given. On April 20th temperature fell by crisis; cerebral symptoms appeared. Spinal puncture showed increased pressure. Symptoms cleared. April 24th patient restless and excitable; pupils more sluggish; Kernig's sign positive; delirious. Chest signs clear; abdominal condition produced no symptoms. Rise in temperature; spinal puncture done; increased pressure with cell count of 3.78 per cu. mm. Lymphocytes predominated; culture negative. Diagnosis of encephalitis lethargica. Patient grew weaker; died May 16, 1920.

Post-Mortem Findings: 1. Congestion of meningeal and cerebral vessels. 2. Increased viscosity of cerebro-spinal fluid. 3. Cysts of softening and acute toxic degeneration of the optic thalami. 4. Adeno-carcinoma of stomach with metastases in liver and abdominal lymph nodes.

Dr. John W. Riley. *Cancer of Rectum. General Peritonitis.*

Mr. C. W. L. S., age 54, white. Present illness: 1. Marked loss of weight. 2. Feeling of exhaustion. 3. Sacral pain. 4. Bloody, foul smelling stools. 5. Constipation.

Past History: About five years ago began to have frequent, blood-tinged, foul smelling stools. Loss of weight. *Amoebae histolyticae* were demonstrated in the stool. The rectal and recto-sigmoid mucous membrane was ecchymotic. The x-ray findings and Wassermann reaction were negative.

Physical Examination: Pale, poorly nourished male; nails cyanotic; skin muddy color. Pulse 72. Blood pressure 124-78. Temperature 98.6 F. Mucous membranes pale. Tongue coated and moist. Chest negative. Abdomen slightly distended; no visible peristalsis; no palpable mass. A nearly occluding, firm mass 5 cm. from anus, giving rise to great pain.

Diagnosis: Cancer of rectum.

Treatment and Progress: A three stage operation with transfusion of blood planned.

May 10th—Transfusion of 500 cc. blood.

May 11th—Laparotomy—lower right rectus incision. Well fixed tumor mass, size of fist, found in pelvis at level of recto-vesical fold. Lymph nodes not demonstrably involved. Ascending colon anchored to incision preparatory to right colostomy.

May 14th—Right colostomy instituted.

May 18th—Transfusion of 500 cc. blood.

May 20th—Laparotomy—lower left rectus incision. Sigmoid mobilized and divided with clamp and electric cautery. Both ends invaginated and sutured. The distal portion, containing tumor, mobilized from sacrum and bladder and covered with peritoneal flaps previously formed. Proximal portion brought through incision and anchored preparatory to permanent colostomy. My plan was to remove rectum in about six days, through a posterior incision.

May 23rd—Patient showed evidence of peritoneal infection. Left colon opened with electric cautery; little function from either colostomy. Good drainage from rectum. Murphy drip instituted through left colostomy. Patient died rather suddenly at 5:00 o'clock next morning.

Post-mortem denied. My belief is that there was a leakage from the extra-peritonealized portion of the gut through the sutured diaphragm of peritoneum, in a patient who had a low phagocytic, leucocytic activity, with resulting peritonitis. Cause of death: Cancer of the rectum; general peritonitis.

Dr. L. J. Moorman. *Chronic Pancarditis with Decompensation.*

Master J. M., age 14. Patient entered hospital complaining of shortness of breath with orthopnea. Two weeks prior to entrance he developed a severe cold, with fever and painful shoulder joints. History of having had, at six years old, acute rheumatic fever with heart involvement. Since then has had two or three attacks of rheumatic fever. Suffered from cardiac embarrassment in 1916.

Physical Examination: A poorly nourished boy. His heart was of the corbovinum type. A roughened systolic murmur heard best over apex, and a definite diastolic "waterfall." "Pistol shot" and Duroziaz sign present in groin. Blood pressure 130-30. A definite capillary pulse seen both in the finger nails and lips. No edema of legs. Temperature, on entrance, was 101 F., and remained elevated until two weeks previous to death. Blood count normal; repeated blood cultures showed no septicemia.

With rest in bed the painful joints and dyspnea soon cleared up. On account of high temperature it was thought he had chronic endocarditis. Kept in bed for ten weeks. From the beginning of the course digitalis was administered. After being free from high temperature for a week he was permitted to walk about the hospital. Just previous to his terminal break, he walked four blocks, following which he developed orthopnea, rapid pulse, and elevated temperature. Died four days later.

Clinically, the case was one of an acute exacerbation of a chronic endocarditis, mitral and aortic regurgitation with chronic myocarditis. Necropsy was of no special interest, except for condition of heart: Chronic endocarditis with definite mitral and aortic valve lesions; pericarditis; passive congestion of all the viscera.

Dr. L. J. Moorman. *Pulmonary Tuberculosis. Tubercular Enterocolitis. Tubercular Peritonitis.*

Miss C. C., Mexican, age 15. Patient entered hospital complaining of pain in abdomen, of nine months duration. Six months ago was operated (laparotomy), nature of which is not known. Since that time has had fever with cough and expectoration, and diarrhea.

Past History: Difficult to obtain.

Physical examination: Poorly nourished girl. Rales heard throughout upper half both lungs. Right rectus scar. Many small irregular indurated masses palpated in various parts of abdomen. Moderate tenderness over entire abdomen. Pulse 100. Temperature 101 F. W. B. C. 10,000 with 72 polys. No tubercle bacilli found in sputum. X-ray showed evidence of advanced pulmonary tuberculosis, and marked hypermotility of the intestine.

Diagnosis: Pulmonary tuberculosis, tubercular enterocolitis, and tubercular peritonitis.

Patient gradually grew worse and died May 4th, 1920.

Post-Mortem Findings: 1. Chronic pulmonary tuberculosis, with pleurisy and cavity formation in both apices. 2. Miliary tubercular peritonitis. 3. Tubercular ulceration of ileum, caecum, and colon, with perforation. 4. Miliary tuberculosis of liver. 5. Vegetative valvular endocarditis.

Dr. Lea A. Riely. *Chronic Interstitial Nephritis.*

Mrs. C. E. W., white, age 38. Patient entered hospital May 23rd, complaining of weakness.

Present Illness: Well until one year ago. Had influenza at that time. Lost fifteen pounds weight; shortness of breath and edema of feet; precordial pain.

Past History: Negative.

Physical Examination: Negative except for soft, mitral regurgitant murmur, and harsh breath sounds; edema of feet and ankles with "pitting on pressure."

Laboratory Findings: Urine—albumen in moderate amount; no casts. Chlorid output showed decreased function. Phenolsulphonephthalein test negative. Blood: sugar, 0.104 per cent; urea nitrogen 375 mgm. per 100 cc.; hemaglobin 45 per cent; R. B. C. 2,090,000; W. B. C. 10,500, with 81 polys.

Progress: Upon entering patient was moribund; died seven days later after an acute rise in temperature.

Post-Mortem Findings: 1. Cicatricial tissue and healed tuberculosis of lungs. 2. Acute splenitis. 3. Marked hypoplasia of left kidney; hypoplasia of right kidney, with senile nephritis.

CASE REPORTS.

Dr. John W. Riley. *Mixed Tumor of the Parotid and Salivary Glands.*

Case No. 1. Master H. R., white, age 8. Family History: Negative. Previous history: Well until three months previous to seeking attention. Small swelling on right side of face, which increased in size slowly. Physical examination: well nourished boy. Lemon-sized, painless, hard, lobulated, moveable tumor in right parotid region. Operation: removal of a firm encapsulated, whitish-blue tumor, having the consistency of cheese. Microscopical diagnosis: small round cell sarcoma. Wound healed promptly; was treated with x-ray. Boy died a year later from metastases.

Case No. 2. Mrs. B., white, age 37. Family and personal history: negative. Twelve years ago patient noticed a pea-sized tumor below left ear. Gradually increased to size of an unshucked walnut. Caused no pain; was firm, lobulated, moveable, and not attached to overlying skin. Operation: removal of tumor under local anesthesia. Tumor was encapsulated, irregular, firm, bluish-white, with great blood supply. Microscopical diagnosis: teratoma.

These tumors have been studied and described by Billroth, Von Brunz, Kernig, Kaufman, Kelly, Woods, Judd, Hertzler, and others. All are not entirely agreed on the origin and classification of them, but more recent observers consider them as mixed tumors, as it is very difficult to classify them.

They appear as rather hard, lobulated, usually moveable growths, most frequently seen just below the lobule of the ear. They may not be connected with the parotid and at other times they form in the gland itself. They are also found in the submaxillary gland, although most commonly seen in the parotid.

They are found as often in men as in women and equally common in the right and left side. They are most commonly seen in the second decade. They have been observed to have been present as long as sixty years and as short a time as a month. The average length of time is about eight years.

Usually they occur as a single tumor but multiple tumors have been seen. Although occasionally seen growing in the salivary gland, they are usually found separate from it and surrounded by a distinct capsule.

One observer reports that thirty per cent return after removal. It has generally been found that if the tumor is removed without rupture of its capsule it does not return and that the removal of the lymph nodes is not necessary.

Cases have been reported in which the capsule was ruptured during the extirpation of the gland growth and the tumor cells left or scattered in the wound have quickly returned and assumed quite malignant propensities. These tumors usually produce but few symptoms and are diagnosed from their position, firmness and bossilation and slow growth.

The capsule is usually quite thick and the tumor on section is firm, bluish-white and intermingled with bands of fibrous tissue. Removal of the encapsulated ones without lymph node dissection has been very satisfactory. This need not entail destruction of the facial nerve. In the larger, more infiltrating kind it is necessary to sacrifice the nerve and gland.

DISCUSSION.

Dr. Horace Reed: This is a most excellent report. I have had occasion to look up literature on this subject, and find that nothing new has been written recently. The consensus of opinion is that the Conheim theory of tumor formation holds good for this type of tumor. It is a mistake to classify it as one tumor, as so many different types of cells may be found present. Some are malignant, others are not, but eventually the capsule is broken. So it behooves the surgeon to remove the growth early. Often it is difficult to remove, especially under local anesthesia; and sometimes it is necessary to sacrifice the facial nerve.

Dr. R. M. Howard: I observed Dr. Riley in removing the tumor in the last mentioned case, and was especially impressed by his manner of avoiding the gland and facial nerve. I believe that local anesthesia is a measure of protection against damage to the nerve.

TYPHOID CARRIERS.

Referring to Circular 69, issued by the Chief Surgeon of the American Expeditionary Forces, in February, 1919, giving evidence of an increase of typhoid and paratyphoid fever among the overseas troops, E. H. Schorer (Kansas City), Hoboken, N. J. (*Journal A. M. A.*, Sept. 6, 1919), presents a report of examinations of returning soldiers made to determine how many chronic carriers there might be among them. The methods used are described, and the laboratory seems to have been especially adapted for the search, as an intensive survey for intestinal parasites was already being conducted there by Major Kofoid. Of all the strains from the stools of 1,000 men, including members of practically all divisions isolated at the same time to reduce the percentage error, only two gave sufficiently definite reactions to warrant their identification as true pathogens. One culture proved to be *Bacillus dysenteriae* of the Hiss-Russell-Y type, while the other was *B. dysenteriae* of the Flexner type. Neither of the men had been suffering from bacillary dysentery. In addition to the two strains mentioned, twenty-eight strains of nonlactose fermenters were isolated which gave carbohydrate fermentations, characteristic of the types sought, but which agglutinated with their respective serums in dilution of 1:100, and, at most, at 1:500. "Since the serums used were of high titer (*B. typhosus* serum 1:32,000, *B. paratyphosus* A and B serums 1:16,000, and *B. dysenteriae*, serum 1:4,000) and because repeated subcultivating on agar failed to increase the agglutinability of these strains, these organisms were finally classed as intermediates. Eleven other strains, which on preliminary tests fermented only glucose and mannite with gas, and agglutinated with the paratyphoid serums in dilutions of 1:100 and 1:500, later fermented lactose after prolonged incubation. These were undoubtedly slow colons. Their detection emphasizes the necessity of long incubation (two weeks) of the lactose serum water and litmus milk cultures, and also of carrying out agglutination tests in higher dilutions, before making any final bacteriologic diagnosis." If time had permitted the use of cultures on brilliant green agar, more isolations might have been made, no doubt. The method used was deemed sufficient in a great majority of cases, and the results showed that the infections in the American Expeditionary Forces during the autumn and early winter of 1918 had remained limited and had given rise to no aftermath of carriers.

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Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, 508 Barnes Building, Muskogee, Okla.

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A. will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

EDITORIAL

RULES AND REGULATIONS AFFECTING PHYSICIANS AND OTHERS RELATIVE TO VENEREAL DISEASES.

The State Commissioner of Health on July 1, 1920, after careful consideration with, and aid from, the Attorney General, promulgated regulations binding on patients, physicians, and every other person concerned in the treatment of venereal infections. Full text of the regulations will be found in this issue.

The Venereal Disease Control Law of Oklahoma, certainly a sane measure, entitled to the support of every good citizen, strange to say, has been more honored by complete ignoring, half hearted, not in good faith co-operation from the physician, the person of all persons in position to interpret and vitalize its terms better than any other. As many laws are; the Act empowers the Commissioner of Health and others to make regulations, too intricate and impracticable for inclusion in the law itself, for proper enforcement. These regulations, violation of the terms of, is equivalent to violation of the law; are not unreasonable or inconvenient to the doctor; stamped postal blanks are furnished him gratis, which contain information called for; the system, no doubt, has already proved a help to physicians in keeping check of their work, formerly wholly neglected or poorly kept. Reports are made of cases by number, the physician only retaining the name, which of course is confidential information obtained by reason of his relations.

Physicians should be warned now that disregard of these rules will surely be followed by trouble and legal reckoning. Evasion is nearly impossible and if occasionally successful, reflects no credit on the physician in that attitude. The work of the Venereal Disease Control Officer, Dr. J. C. Mahr, has been very favorably noted and commented upon by technical Journals of National importance on many occasions; it certainly seems that Oklahoma physicians should not be found projecting embarrassment to the highest efficiency

attainable from the law. If they must do that, however, this is to warn them to get ready for trouble, for no exceptions will be made by any of those concerned in prosecutions hereafter. The "standing" of no one will bar enforcement, on the contrary their obstinacy will net their complacent vanity a rude shock. Moral—Report your venereal cases.

ARE WE TO HAVE ANOTHER FRIEDMANN?

For several months past the daily press has carried news items of an alleged "discovery" by one Voronoff, a Russian physician, as to the wonderful revivifying effects upon the human of transplantation of ovarian and testicular glands, with occasional allusion attributing such virtues to transplantation of "monkey glands." The entire matter being regarded as something new, and crediting the Russian with its perfection and practical application to relief of many of the phenomena of old age and impotency for other reasons. The *New York Tribune* of July 19th, announces the arrival of Voronoff, and his statements that he came to carry the operation "a step further by using human glands instead of glands of the ape"; that he hoped to demonstrate "this wonderful *new* operation before representatives of the Academy of Medicine."

American Medicine has never witnessed more brazen effrontery than is shown in the manouvres of this "scientist" and "discoverer," and the pitiable part of the whole performance lies in the ready and credulous acceptance of his mere assertion by a great daily paper, which publishes the matter as authentic, when a few minutes use of the telephone to any one of scores of New York's profession would disclose that his "improvement" became a matter of American Medical record and achievement many years ago; that the medical press had long ago recorded it, and that its originator, Dr. G. Frank Lydston, Chicago, had reported many cases, the first operation being performed by and upon himself, which was followed by many other carefully selected, accurately noted cases of both sexes, and that later he issued a volume to the profession on the subject.

The writer had the pleasure of meeting Dr. Lydston and hearing him discuss the phases of the work when it was in its initiatory stages; so there can be no question as to whom priority and credit is due. Certainly there is nothing new in the claims of Voronoff, and if he has any scientific standing and training he must know of the work of Lydston, widely published in America and translated into several French medical publications.

Surely the great press of our country should have some informed medical authority on its staff or accessible for consultation in such matters. The immense harm already done by too credulous acceptance of obvious and heartless imposters, unwittingly aided by our press, is yet a matter of fresh history. Hearst's "Cancer Cure" by Bebee's Serum; the gullibility of all of them as to Friedmann; the long forgotten heralding of the medical Messiah, Lorenz, with his cure of joint tuberculosis, should be labelled "Medical," filed in every editorial office, and when anything medical is broached the musty past should be brought out as a reminder of the pitfalls awaiting the enthusiastic writer ready to sow broadcast destruction to victims of disease.

THE DEMISE OF KING ALCOHOL.

The value of alcohol as a food has always been a questionable matter, predominant opinion of scientists qualified to pass upon the matter denying such properties, with those claiming such attributes, generally holding that more useful substitutes were available when alcohol was indicated. In the days of dying gasp, physicians naturally have been appealed to as the last resort. Undeniably some of them have gone far afield, standing as biased partizans rather than useful counsel.

Physicians, more than any other profession, have noted the destructive path left by the juice of joy. Sympathetic of the Constitutional right of the citizen to live as he pleases, only restricted when his course interferes with the health, pleasures and pursuits of others; we suddenly see a nation "Constitutionally" sweep manufacture and sale out of legal existence. Summing up the small questionable good alcohol may do the sick, the indictment of crime, poverty, disease, and wrecked homes far overbalances the eleventh hour claim of its necessity. Our good friend and harbinger of temporary surcease from the worries of the hour seems to have reached the pale of nevermore. Most of us are glad of it; the discerning physician, often a user himself, has no regret when he computes the woe left in its wake. We never had sympathy or anything in common with the low-idealized citizen behind the bar, or with the higher-up who prostituted manhood and used his powers to control the political destinies of good citizens and the towns and cities they created. That attitude, more than any other, brought about National downfall of the great King. Not content with attending to their own affairs, refusing to maintain places of decency, encouraging every vice and brazenly using their filthy horde to gain and misuse public office at the expense of the better element, the physician only sees cause for congratulation. The record of abuses, especially in large centers, is appalling. Histories of corrupt management of state institutions for relief and care of the insane and similar unfortunates, reveal unbelievable atrocities and neglect from the hands of those charged to care for them by ignorantly criminal political employees, placed there not by selection of decent people, but by the "Boss" who acquired his power through the agency of alcohol.

Every physician south of Mason's and Dixon's Line smiles when he reads the efforts of New Jersey, New York and Pennsylvania officials to invoke the doctrine of "State's Rights." We can see nothing but inconsistency in their cry of such rights when we recall their stand of 1861-64. Brother in distress, we are mean and ungenerous enough to feel no answering sympathy for you. You established the principle of National over States rights, so you must abide by the creature of your making.

HAVE A HEART, MUCKRAKER.

Oklahoma papers recently carried sensational news, duly accompanied by glaring headlines, that Wesley Hospital, Oklahoma City, was charged with poorly housing and otherwise maltreating ill and wounded returned soldiers assigned them for treatment by the U. S. Public Health Service. As expected by those of the medical profession informed of the staff personnel of Wesley, the investigation wholly exonerated the men and institution.

We have already called attention in the *Journal* to certain phases of the work of caring for the returned soldier, little, if at all understood by the people generally, and likewise unappreciated by the doctor unless he is brought into contact with the actual work. In the first place, no one has abused or is trying to maltreat the men. If any class of the physician's work is done well, with painstaking care, and for very nominal remuneration, it is this work. To the initiated it is a matter of no surprise now to understand that an amazingly large per cent of the men are subject to various, complex nervous and psychic phenomena. With this in mind, fair-minded men hesitate to accept the stories they hear except after authentic knowledge. It is no reflection on the men, on the contrary it is to their advantage to have everyone understand that their complaints are often made on misunderstanding and inability to grasp the rules applied to their cases. It follows that their friends, unaware of such tendencies and possibilities, accept at full value, the most absurd charges against capable men, who are giving them the best of service, largely from patriotic and keen sympathy for them. Knowing this to be true, it is more than exasperating to be haled into the light of publicity to answer groundless charges brought by misinformed busy-bodies, who, you may be sure, cannot be reached for reparation only in part of the injustice they have done honorable

men. It is exasperating, too, to know that no exoneration will ever be given the wide publicity given the unjust charges against the hospital caring for these men, which institution pridefully and honorably may proclaim to all comers, especially to irresponsible critics, that every member of its staff held commission in some capacity as an officer of the Medical Corps, did their bit and did it well, honorably returned to pick up the thread of civil life with its obligations which they are so well fitted to execute.

The *Journal* has this suggestion to make. Physicians everywhere should reduce to the minimum these charges of the muckraker; our press should know from us that members of an honorable profession could have no motive or make no gain in inefficiently doing their work. We should ask them to at least give us credit for not being fools enough to wreck our superstructure of ability on which is based the only certain success. The physician who stands mutely by when such nonsense is told him, voicing no protest in defense of the colleague he must know is wrongfully assailed, sadly lacks that necessary pride he should, but does not hold for the world's most ancient and honorable calling. To the irresponsible, should be pointed the months of 1917-1919 with the roll-call of Wesley's honorably absent membership.

PERSONAL AND GENERAL NEWS

Dr. H. A. Wagner, Shawnee, is on his vacation in Colorado.

Dr. M. A. Baker, Shawnee, attended the x-ray clinics held in Chicago during July.

Dr. W. E. Dicken and family, Oklahoma City, are touring Colorado by automobile.

Dr. and Mrs. E. F. Hurlbert, Meeker, are spending the summer at Castle Rock, Colo.

Dr. Earl D. McBride, Oklahoma City, returned in July from an extended trip to clinics of eastern cities.

Dr. J. B. Lampton, Henderson, Ky., has moved to Sapulpa and formed a partnership with Dr. Amos Avery.

Dr. W. S. Ivy, Marlow, is doing special work in Chicago. He is attending the Laboratory of Surgical Technique.

Dr. J. W. Malcolm, Lawton, suffered a broken leg when he was run down by an automobile in the streets of that city.

Dr. H. M. Reeder, Shawnee, is doing special work in pathology in Chicago. His plans contemplate absence for two months.

Tulsa City authorities are considering the purchase of the Knoblock-Woods Laboratory as an adjunct to the Health Department.

Dr. and Mrs. E. C. Wilson, Alva, entertained the doctors and doctors' wives of Woods County with a banquet at their home June 29th.

Dr. G. W. Stewart, Hobart, announces that he may locate in Muskogee, the home of his son, who is Superintendent of the State School for the Blind.

Mrs. Edna A. Gipson, 2910 Classen Blvd., Oklahoma City, is offering for sale medical books, scale and other effects of her deceased husband, Dr. H. H. Gipson.

Dr. E. H. Martin, Hot Springs, announces the organization of the Martin Clinic. Drs. Purdum, Klugh, Coffey, Porter, Minnich, Edgerton, Ford and Runskewitz are his associates.

Dr. J. M. Byrum, Shawnee, Secretary of the State Board of Medical Examiners, will attend the clinics of Dr. Willard Bartlett, St. Louis, and Crile in Cleveland while away on his vacation.

Dr. C. V. Rice, Muskogee, is given much credit for the work he performs in conducting the Baby Clinic maintained by the Associated Charities. Their Bulletin of July especially commending him.

Dr. L. E. Emanuel, Chickasha, was elected President; Dr. W. T. Ray, Gould, Vice-president, and J. M. Byrum, Shawnee (re-elected), Secretary of the State Board of Medical Examiners at the July meeting.

Dr. I. W. Hollingsworth, Muskogee, is visiting Mexico City for the purpose of securing, if possible, oil concessions. It is said he formerly served with many of the officers now prominent in affairs, recently swept into power by the revolution.

Dr. J. T. Martin, City Physician of Oklahoma City, states that the report that he had severed his connection with the health department is without foundation in fact, quite in keeping with the misinformation too often doled out to the public.

Mrs. Billie Twoney, Oklahoma City, nurse on duty at the Detention Hospital, took "a couple" pistol shots at a demented patient who ran amuck—result, two clear misses. The women simply have not had the vote long enough to make them efficient with the six-shooter.

Governor Robertson, on request of Dr. A. R. Lewis, Commissioner of Health, announces that special medical requirements of the inmates of the Sulphur State School for deaf children will be available from the contingent fund. They will be treated at the University Hospital, Oklahoma City.

Dr. G. A. Boyle, Enid, has shaken the dust of Oklahoma from his feet and at this hot hour is seducing the "speckled beauties" from trout streams of Southern Wyoming. He will visit relatives in Twin Falls, Idaho, then go on to Los Angeles, Long Beach and then home via Arizona the last of September.

Dr. Amos Avery, Sapulpa, was awarded a verdict in a malpractice suit recently decided in that city. The plaintiff dismissed the case and paid the costs. Suit arose over Dr. Avery attempting to collect fee for his services. This is the most common of all causes as a basis for alleged malpractice, also the most unjust.

Dr. W. D. Dawson, Henryetta, has evolved from the class of strugglers to that of affluent ease. A short time ago, he bought a farm, oil development reached him and now he is the possessor of five producing wells, which came in with 350-barrel output. The piece still has ten locations to be drilled in. We congratulate him upon now being in position to aid struggling medical editors and similar worthy souls.

Dr. J. M. Lee, Tulsa, after trial by the State Board of Medical Examiners at Oklahoma City was deprived of his license to practice. The charges are said to have been based upon "unprofessional" advertising, in that he claimed to perform manifestly improbable cures, or obtain such results. He appealed the case to the District Court, Muskogee, the home of a member of the Board, which is required by law when injunction or mandamus is brought against the acts of the Board.

Shortage of Oklahoma nurses is reported by Miss Elizabeth McKnight, Red Cross Nursing Director, St. Louis, who visited the State in July seeking suitable recruits for U. S. Public Health Service.

The Third Annual Oklahoma State Public Health Conference will take place at Oklahoma City October 12-13, 1920. The conference is under the joint direction of the Oklahoma Tuberculosis Association and the State Department of Public Health. For information concerning program apply to either organization.

A Great Discovery—Trachoma Definitely Located in Mediastinal Space. Oklahoma is nothing if not progressive. The gods of yesterday are the discarded idols today, making way for inevitable onrush of progress. The *Journal*, page 249, July, quotes Dr. Ray Balyeat, Oklahoma City, on having made x-ray of chest with the astounding statement, "We found the trachoma covered over". Gray, Gerrish, Quine, adieu, your sun has set; in Oklahoma City a restless scientist has been your undoing. With the aid of an accurate reporter wonders may be accomplished, especially so if the proof-reading is entrusted to the proper individual. We apologize.

The Vinita Journal facetiously apologizes for inadvertently mentioning the name of a physician in its news columns, relating the episode of the printer's error who added "w" to the letters "so" in noting that Dr. Blank had visited the son of a prominent citizen. That is not half bad, but does not approach the plight of the editor, who found on his return that his "Devil", fond of Kipling, had inadvertently added to the account of the wedding of the town's rich man, the lines:

"And this is the end of my story,
Told as the twilight fails,
While the monkeys are walking together,
A-holding each other's tails."

MISCELLANEOUS

REVISED RULES AND REGULATIONS, VENEREAL DISEASE REPORTS.

Published by the Oklahoma State Commissioner of Health, on the First Day of July, 1920.

To prevent the spread of contagious and infectious diseases among persons within the State, to establish a quarantine in aid thereof, and for the cure of such diseases designated by these rules and regulations.

It being necessary to protect the health of the citizens of the State of Oklahoma, and being urged as an emergency measure by the Surgeon General of the United States Army and of the United States Public Health Service, the following rules and regulations are hereby published by the Oklahoma State Commissioner of Health, pursuant to and under authority of Chapter 67, Revised Laws of 1910, to take effect from and after August 25, 1918.

Section 1: Syphilis, gonococcus infection and chancroid, hereinafter designated venereal diseases, have been declared by law to be contagious, infectious, communicable and dangerous to the public health. (Session Laws 1919, Senate Bill No. 43.)

Section 2: The provisions of Chapter 67, Revised Laws of 1910, shall apply to the diseases mentioned, except that these diseases shall be reported by serial number on forms provided by the State

Commissioner of Health for such purpose, and the name of the patient need not be reported, except as hereinafter provided.

Section 3: Any person who is under treatment at the present time, or who shall, hereafter, present himself (or herself) to any licensed physician for treatment or diagnosis of any of the venereal diseases mentioned, shall immediately, in case he or she is found or reasonably believed to be so infected, be reported to the State Board of Health on Form V S. 30. Each physician is required and hereby directed to keep a record of all patients infected with the diseases mentioned, with their corresponding serial numbers and the resident addresses of such patients. The number used in notifying the first case by each physician or person reporting shall be No. 1, the second No. 2, etc., *seriatim*; except it be a case formerly treated by another physician or person, when the letter A shall be prefixed to the case number.

Section 4: All city, county, or other health officers shall use every available means to ascertain the existence of, and to investigate all cases of syphilis, gonorrhea and chancroid within their several territorial jurisdictions, and to ascertain the sources of such infections. Local health officers are hereby empowered and directed to make such examinations of persons reasonably suspected of having syphilis, gonorrhea or chancroid as may be necessary for carrying out the provisions of the Venereal Disease Act, Session Laws, 1919, known as Senate Bill No. 43.

Section 5: Local health officers are authorized and directed to quarantine persons who have, or are reasonably suspected of having syphilis, gonorrhea or chancroid, whenever, in the opinion of said local officer, or the State Board of Health, or the Director of the Bureau of Venereal Diseases, or its executive officer, quarantine is necessary for the protection of the public health. In establishing quarantine the local health officer shall designate and define the limits of the area in which the person known to have, or reasonably suspected of having syphilis, gonorrhea, or chancroid and his immediate attendant, are to be quarantined and no person, other than the attending physician, shall enter or leave the area of quarantine without the permission of the local health officer. No one but the local health officer shall terminate said quarantine, and this shall not be done until the quarantined person has become non-infectious, as determined by the local health officer or his authorized deputy through clinical examination and all necessary laboratory tests, or until permission has been given him to do so by the State Board of Health or its executive officer. A case of gonococcus infection is to be regarded as infectious until at least two successive smears taken not less than 48 hours apart fail to show gonococci, said examination to be made by a bacteriologist approved by the State Board of Health. A case of syphilis shall be regarded as infectious until all lesions of the skin and mucous membranes are healed. A case of chancroid shall be regarded as infectious until all lesions are healed.

Section 6: Prostitution is hereby declared to be a prolific source of syphilis, gonorrhea and chancroid, and the repression of prostitution is declared to be a public health measure. All local and state health officers are therefore directed to co-operate with proper officials, whose duty it is to enforce laws directed against prostitution, and otherwise to use every proper means for the repression of prostitution.

Section 7: When a case is reported by number only, the physician or person treating the disease shall assume responsibility for the faithful observance of all rules and necessary precautions by the patient, and the responsibility shall continue until the patient appears to be cured, at which time a report to this effect is to be transmitted to the State Board of Health, such report to contain the serial number of identification under which the case was originally reported. When reasonable evidence is secured to indicate that said rules and precautions are not being observed, or will not be observed, the name and address of the patient shall at once be submitted to the local health officer, who shall then proceed as directed under Section 5.

Section 8: When a person applies to a physician or other person for treatment of a venereal disease, it shall be the duty of the physician or person consulted to inquire of and ascertain from the person seeking treatment whether such person has theretofore consulted with or been treated by any other physician or person, and if so, to ascertain the name and address of the physician or person last consulted. It shall be the duty of the applicant for treatment to furnish this information and refusal to do so or falsely stating the name and address of such physician or person consulted, shall be deemed a violation of this regulation. It shall be the duty of the physician or person whom the applicant seeks to and does consult or employ, to notify immediately the physician or person last consulted or employed of the change of advisors, such notification to be made upon a form (form V. S. 33) furnished for that purpose by the State Board of Health. Should the physician or person previously consulted fail to receive such notice within seven days after the last appearance of such venereally diseased patient, it shall be the duty of such physician or person to report to the State Board of Health the name and address of such venereally diseased patient, (form V. S. 32).

Section 9: Any person, or persons applying to any physician or to any Public Health Service Clinic for treatment of a venereal disease, and who shall give an alias, or wrong address, or any misstatement as required under the rules and regulations of the State Board of Health, shall be deemed guilty of a misdemeanor.

Section 10: The parents or guardians of minors acquiring venereal diseases and living with said parents or guardians, shall, when notified, be legally responsible for the compliance of such minors with the requirements of these regulations.

Section 11: Persons who have been under treatment for syphilis in an active form shall not be considered cured until all clinical evidences of the disease have been absent for nine months, during which time three negative Wassermann reactions shall have been secured; the second test being made at least two weeks after the first and the third test at least ten days after the second. Persons with

gonococcus infections shall not be considered cured until all clinical evidences have disappeared and until three negative bacteriological examinations have been secured; the second test at least ten days after the first and the third test at least ten days after the second. Persons infected with chancroid shall not be considered cured until the ulcer has entirely healed and until a negative Wassermann, made not less than six weeks after the healing of the sore, has been secured. Any person under treatment for a venereal disease, *who discontinues treatment before he or she is certified as cured is guilty of a misdemeanor.*

Section 12: It is hereby ordered that all persons arrested for vagrancy, prostitution, adultery, or any violation of any law of the State or a municipality thereof, involving sexual morality, shall submit to and be given a thorough examination for venereal disease by the local health officer. If the person arrested be found infected, he (or she) shall at once be required to take treatment and shall be quarantined as hereinbefore provided, to such extent as may be necessary for the protection of the public from infection.

Section 13: All information and reports concerning persons infected with venereal diseases, shall be inaccessible to the public except in so far as publicity may attend the performance of the duties imposed by these regulations and by the laws of the State.

Section 14: It shall be the duty of all *licensed physicians* treating venereal diseases to comply with Section 3 of the foregoing Rules and Regulations (reporting all cases to the State Board of Health), complying strictly therewith in accordance with all laws governing and empowering the State Commissioner of Health to enforce such Rules and Regulations as may be promulgated.

July 1st, 1920.

A. R. LEWIS, State Commissioner of Health.

SIX AMERICAN RED CROSS NURSES WIN WORLD'S HIGHEST NURSING HONOR.

Six American women, all of whom saw service in the World War, have just been awarded the Florence Nightingale Medal, the highest decoration of the whole nursing world. The distinction, which is bestowed by the International Committee of the Red Cross, Geneva, may be awarded only one nurse of any nation annually—thus these six women represent America's nursing roll of honor since the outbreak of war in 1914. The terms under which the decoration was created in 1912 also provide that it be granted "only to trained nurses who may have especially distinguished themselves by great and exceptional devotion to the sick and wounded in peace or war."

These nurses, all of whom served with the American Red Cross, are Miss Helen Scott Hay, of Washington, D. C.; Miss Florence Merriam Johnson, of New York City; Miss Martha M. Russell, of Boulder, Colo.; Miss Linda K. Meirs, of Boston; Miss Alma E. Foerster, of Chicago; and Miss Mary E. Gladwin, of New York City.

SCHOOL FOR THE BLIND.

Two new buildings provided by the last legislature at the Oklahoma School for the Blind are nearing completion. These buildings increase the capacity of the Institution so that it will be possible to receive additional pupils at the opening, about September 15th. Anyone having a child or knowing of a child who is either totally or partially blind, and who, because of defective vision is unable to receive an education in the public schools, should write Superintendent O. W. Stewart, Muskogee, Oklahoma, for information relative to the Institution.

MALARIA CONTROL.

The establishment of malaria control centers in Malvern, Lake Village, Fordyce, Crossett, and perhaps other towns in Arkansas with control units in such towns appointed by the State Board of Health, is a matter for congratulation. Wonderful work has been done at Crossett, so much so that the *Literary Digest*, a publication read all over the United States, has called attention to that enterprising city as a model by which other cities everywhere should pattern. Indeed, it is said that the work in the vicinity has been so thorough that a reward has been offered to anyone discovering a mosquito there. In years gone by, with people in other states Arkansas has been almost a synonym for malaria. Of course, this was undeserved, because at all times malaria was largely confined to the low, marshy sections and did not obtain in the higher grounds. But against this reputation comes an influential journal, read chiefly, if not exclusively, by thoughtful people, with a most decided "hoost" for Arkansas as exemplified by Crossett.

Arkansas has developed rapidly and is still developing; but outside capital and desirable immigration are still essential to its further development. The desirable immigrant and capitalist look first to health statistics. The immigrant will not bring his family to a community where health conditions are not satisfactory, nor will the capitalist invest his money in such communities. This is a point of view with which our legislators have not been fully impressed. On the contrary, the State Health Department has, in the past, been sadly handicapped by a lack of appreciation by the Legislature of the supreme importance of public health measures.

Far be it from us to discourage road building—indeed, that is to some extent a health measure; but disposing of the quagmires and unsanitary pools by roadsides, affording ideal breeding spots for mosquitoes, is vastly more important. It is in order to call attention to the vast road building projects, considered of such vital interest that special sessions are called to perfect and correct imperfect road building measures, while the public health has been imperiled by insufficient appropriations. As a matter of fact, health legislation is paramount to all other measures, and the demonstrated results

FRENZIED FOOLISHNESS.

Quick Thinking Young M. D.

An elderly examiner was putting a young medical student through his tests.

"Supposing," he began, "there was a gunpowder explosion and a man was blown into the air. You, as the nearest doctor, being called in, what would you do?"

"Wait for him to come down again," was the prompt reply.

"Well, let us take another case. A man has dug a pit forty feet deep. At the top he slips and falls right to the bottom again. What would you advise?"

"Fill up the pit, and save funeral expenses," answered the student, glibly.

The examiner snorted angrily, and then barked:

"If I was to raise my foot and give you a kick, what muscles would be called into play?"

With a steely light in his eyes, the young man retorted:

"The flexor and extensor muscles of my right arm!"

Jim—"Too bad about Smith. He's suffering from a bad case of shell shock, and he cannot remember anything of the past."

Jerry—"Good Lord! And I lent him five dollars before he was hurt."

Doctor—"What? Troubled with sleeplessness? Eat something before going to bed."

Patient—"Why, Doctor, you once told me never to eat anything before going to bed."

Doctor (with dignity)—"Pooh, pooh! That was last January. Science has made enormous strides in the last few months."

Specialist—"You are suffering from nerve exhaustion. I can cure you for the small sum of \$2,000."

Patient—"And will my nerve be as good as yours then?"

Patron—"Can you tell me what ails my wife?"

Doctor—"She does not take enough outdoor exercise."

Patron—"She doesn't feel like it."

Doctor—"True, she needs toning up."

Patron—"What do you prescribe?"

Doctor—"A new hat."

Many.

There are people who, instead of listening to what is being said to them, are listening already to what they are going to say.—*Impressions.*

His Skill Appraised.

Dauber, being hard up, took one of the pictures to a pawnbroker to raise a loan on it. He was offered the flattering sum of four dollars.

"Four dollars!" expostulated the artist. "Why the frame cost me more than that."

"I know," said the pawnbroker; "that's what I'm lending the four dollars on."—*Boston Transcript.*

Doctor—"Here I bring with me the oldest man in our city. He is over eighty and his occupation is chimney sweep.

Professor—"Nothing wonderful about him. We all know that smoked meat keeps longer than any other."

"Mayme's baby, to hear her talk, must be the smartest child on the block."

"Yes, I was fully prepared to hear her say, when her child swallowed a tack, it was because he heard the doctor say he needed more iron in his system."

"They say my cousin is a wonderful doctor."

"You bet he is. I swallowed a nickel the other day, and he made me cough up two dollars."

"And so you are going to the hospital for an operation, are you, Mr. P.?"

Mr. P. (sighing deeply)—"Yes, they say I have to."

Visitor—"And what is the trouble for which you are to be operated on?"

Mr. P.—"Well, it may be appendicitis, or it may be a gall-stone, or it may be floating kidney, so the doctor says, but I think it is a case of professional uncertainty."

Visitor (in a tone of astonishment)—"Well, that is a new one on me. I have never heard of such a disease."

Mr. P.—"Then your acquaintance with doctors must be limited."

"I have a case of tuberculosis, in the last stage, and would like to know if you think your Proteogen No. 3 would do a case of that kind any good. If so, please send me the treatment and directions how to use."

His request was of course, complied with, and on January 16, 1920, this letter was received from the doctor:

"The patient who is taking the Proteogen No. 3 is my brother. He has gained seven pounds within the past four weeks and has continued his work as a railroad postal clerk. He does not cough more than from ordinary cold, has a good appetite and seems to be getting along all right."

My Auto, 'Tis of Thee.

My auto, 'tis of thee, short cut to poverty,

Of thee I chant.

I blew a pile of dough on you two years ago, and now you refuse to go,

Or won't or can't.

Through town and countryside, you were my joy and pride,

A happy day.

I love thy gaudy hue, the nice white tires so new. But now you're down and through,

In every way.

To thee, old rattletrap, came many bumps and knocks,

For thee I grieve.

Badly thy top is torn, frayed are thy seats and worn, a whooping affects thy horn,

I do believe.

Thy motor has the grip, thy spark plug has the pip,

And woe is thine.

I, too, have suffered chills, ague and kindred ills, endeavoring to pay thy bills,

Since thou wert mine.—*Hood Arrow.*

An Unsatisfactory Diagnosis.

Doctor—"There is nothing the matter with you, madam."

Lady—"Nothing the matter with me! Marie, cough for the doctor like I coughed in the night."

—*Klod Hans, Copenhagen.*

A Reasonable Request.

Please keep away from Elland cemetery during dispute.—*Halifax Courier.*

An elderly church warden, in shaving himself one Sunday before church-time, made a slight cut with the razor on the extreme end of his nose.

Quickly calling his wife, he asked her if she had any court plaster in the house. "You will find some in my sewing basket," she said. The warden soon had the cut covered.

At the church, in assisting with the collection, he noticed everyone smile as he passed the plate. Very much annoyed, he asked a friend if there was anything wrong with his appearance.

"Well, I should say there is," was the answer. "What is that on your nose?"

"Court plaster."

"No," said his friend, "it is the label off a spool of cotton. It says, 'Warranted 200 yards long,'"

By Force and Arms.

Lawyer—"You say your wife attacked you with a death-dealing weapon. What was it?"

Meek Little Man—"A fly swatter, sir."—*American Legion Weekly.*

The arrival of "the daughter of a rich Southern planter" in Great Bend for a summer visit caused quite a ripple in social circles, according to the *Tribune*, and the ripple still rippled when it was learned she was the daughter of an enterprising undertaker in Atlanta.

What To Do For It.

London—"If you eat anchovies, pickles, olives and other salty things before going to bed you will dream that you are drinking all night."

So says William Archer, the well known critic. He adds:

"I commend this practice to the citizens of the United States if prohibition has left them with a grievance.—*Cleveland Plain Dealer.*

A New Definition.

"What is a widow?" asked the teacher of a Sunday school class, the subject of the day's lesson being the widow of Ham.

There was silence until she nodded to a little boy on her left, and said: "You know what a widow is, don't you?" for she knew that the little boy's mother was one.

"Yes'm," he answered, "it's a lady what takes in washing!"

COUNCIL ON PHARMACY AND CHEMISTRY

AMERICAN MEDICAL ASSOCIATION

(The following articles produced by advertisers in this Journal have been accepted for inclusion with New and Non-Official Remedies by the Council on Pharmacy and Chemistry.)

During June, the following articles manufactured by our advertisers have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies:

Abbott Laboratories: Benzyl Benzoate (Abbott); Elixir Benzyl Benzoate (Abbott); Tablets Benzyl Benzoate (Abbott).

PROPAGANDA FOR REFORM.

Chaulmoogra Preparations and Sodium Morrhuate. Chaulmoogra oil and preparations made from it are at present extensively employed and seem to produce amelioration in the majority of lepers to whom it has been administered persistently. Investigation has shown that chaulmoogra oil contains bactericidal substances that are one hundred times more active than phenol, and that this bactericidal action is specific for the acid fast group of bacteria to which the causative organism of leprosy belongs. The product is inactive against all other organisms studies. On the other hand, it has been shown that sodium morrhuate and the fatty acids of cod liver oil do not have a similar action in tuberculosis which is also due to an acid fast bacterium. The value of chaulmoogra preparations in tuberculosis remains to be demonstrated, and their clinical trial should await their experimental investigation. The indiscriminate use of drugs in tuberculosis may arouse false hopes and may not be without danger to the patient (Jour. A. M. A., June 5, 1920, p. 1578).

Warning Against Untried Medicaments. The United States Public Health Service has issued a circular regarding the use of arsenic preparations in the treatment of syphilis, in which it invites attention to the extensive exploitation of various arsenic preparations which are not related to the arsphenamin group. It is held that the subcutaneous, intramuscular or intravenous use of arsenic in the treatment of syphilis should be confined to the arsphenamin group, as these agents are now of established value and are produced under the supervision of the Public Health Service (Jour. A. M. A., June 12, 1920, p. 1654).

What is the Therapeutic Value of the Hypophosphites? A research conducted by the Council on Pharmacy and Chemistry shows: There is no reliable evidence that they exert a physiologic effect. It has not been demonstrated that they influence any pathologic process. They are not foods. If they are of any use, that use has not been discovered. The hypophosphites were introduced into medicine by Churchill, who advanced the theory, long since discarded, that the so-called tuberculosis diathesis was due to a phosphorus deficiency. It is now known that little phosphorus, if any, is assimilated from hypophosphites—far less than from phosphorus compounds of ordinary foods. As a result of the power of advertising, many physicians still prescribe hypophosphite combination (Jour. A. M. A., June 12, 1920, p. 1661).

More Misbranded Nostrums. The following "patent" medicines have been the subject of prosecution by the federal authorities, chiefly because the therapeutic claims made for them were false: Sealeaf Emulsion, an emulsion of cod liver oil and malt extract; Green Mountain Herb Tea, and Sabine's Indian Vegetable Tea, consisting essentially of senna, fennel, elder flowers, anise, triticum, sassafras, American saffron, coriander, licorice root, butternut bark, buckthorn and Epsom salt; Sabine's Indian vegetable Cough Balsam, consisting essentially of alcohol, chloroform, tar, resin, sugar and traces of alkaloids; Bovinina, apparently a meat extract; Fruit-a-tives, consisting essentially of extracts of aloes, nux vomica and cinchona bark; Anticalculina Ebrey, consisting essentially of alcohol, colchicin, ammonium salts, vegetable extractives and water; McDowell Ginseng Bitters, a solution of plant extract, containing small quantities of glycerin and a zinc salt (Jour. A. M. A., June 12, 1920, p. 1661).

Quality of Acetylsalicylic Acid. The following brands of acetylsalicylic acid have been found of satisfactory quality and are in New and Nonofficial Remedies: Acetylsalicylic Acid-Heyden, Acetylsalicylic Acid-M. C. W., Acetylsalicylic Acid-Merck, Acetylsalicylic Acid (Aspirin)-Monsanto, Acetylsalicylic Acid-P. W. R., Acetylsalicylic Acid-Squibb, and Aspirin-L. and F. An examination made in the A. M. A. Chemical Laboratory two years ago showed that the product supplied as acetylsalicylic acid was of equal quality with the German made Aspirin Bayer. The Aspirin Bayer now made in America and exploited with misleading claims is controlled by the Sterling Products Company, which sells cascareds, danderine, etc. (Jour. A. M. A., June 12, 1920, p. 1664).

Formitol Tablets. In a report of the Council on Pharmacy and Chemistry, it was stated that Formitol Tablets of the E. L. Patch Company contained formaldehyd (or paraformaldehyd) and some hexamethylenamin, and that the formaldehyd (or paraformaldehyd) had been produced by the decomposition of the hexamethylenamin originally present in the tablets. The Council now reports that the Patch Company declares that no hexamethylenamin is used in the manufacture and that, therefore, that which was found must have been produced from the formaldehyd and ammonium chlorid in the tablets. The Council further reports that a printed sheet received from the Patch Company conveyed the information that Formitol Tablets contained ammonium chlorid, benzoic acid, citric acid, guaiac, hyoscyamus, menthol, paraformaldehyd and tannic acid, but gave no information as to the amounts

of any of the ingredients except that each tablet was declared to represent 10 minims of a one per cent formaldehyd solution. Because of the non-quantitative, and, therefore, meaningless "formula," the A. M. A. Chemical Laboratory made an analysis of the tablets. The analysis indicated that the combined weight of all the claimed active ingredients is less than one grain per tablet! Formitol Tables furnish a good illustration of some well established truths: (1) "Formulas" that are nonquantitative are valueless or worse than valueless. (2) The fact that a manufacturer puts certain drugs in a mixture is no proof that these drugs are there when the mixture reaches the patient. (3) Complex mixtures should be avoided. It is absurd to expect, as is claimed in the case of Formitol Tablets, anodyne, antiseptic, astringent, expectorant and resolvent action, all at the same time (Jour. A. M. A., June 19, 1920, p. 1730).

Formula for Mouth Wash. Castile soap, dried and granulated, 6.00 gm.; benzosulphinid, 0.20 gm.; basic fuchsin, 0.002 gm.; oil of cassia, 0.50 c.c.; oil of peppermint, 0.50 c.c.; oil of cloves, 1.00 c.c.; alcohol, 75 c.c.; water to make 100 c.c. A few drops added to water to be used as a mouth wash. It will be noted that, except for the volatile oils present, antiseptics are conspicuous by their absence. It is impossible to disinfect the mouth. Mere bacteriostatic (germ growth) inhibitive influence of antiseptics can be of value only as long as the agent is present; and the time that one is willing to keep the mouth full of fluid is limited. The chief virtue of mouth wash preparations lies in their esthetic qualities, their pleasant appearance, odor and taste, which induces their use (Jour. A. M. A., June 19, 1920, p. 1732).

NEW BOOKS

Under this heading books received by the Journal will be acknowledged. Publishers are advised that this shall constitute return for such publications as they may submit. Obviously all publications sent us cannot be given space for review, but from time to time books received, of possible interest to Oklahoma physicians, will be reviewed.

HEALTH INSURANCE AND PHYSICIANS.

By Frederick R. Green, A. M., M. D., Secretary, Council on Health and Public Instruction American Medical Association. Issued by The Council, Press of the American Medical Association. Chicago.

This monograph is the production of perhaps the ablest student of matters affecting the medical profession in our country. Dr. Green, apt student, peculiarly fitted to weigh cause and effect, is an accurate interpreter of the trend of the day. He has concisely discarded the chaff of the biased argument and illogical opinions on this subject which is now a difficult problem in many localities with dense population, and which, sooner or later will be our problem, in some of its varied forms. The medical profession is so vitally affected in every proposed law that it at once becomes our problem.

Salient features of Dr. Green's conclusions are: That it is not insurance, but a subsidy; that it is an economic problem, the concern of all the people, but vitally of the physician, without which it cannot be; that our profession is ineffective mostly in the matter for the reason we only consider the medical aspects involved, neglecting the important economic angles. He denies the very generally repeated claim that it is "inevitable," therefore must be; doubts if it is applicable in present form to Democratic United States; questions if it is needed, finally summing up with opinion that it must be proved:

First: That there is a disproportionate amount of sickness among employed persons, causing loss, incapacity, and poverty greater than that of the average person.

Second: That financial burden on the laborer due to sickness is more than he can bear.

Third: That present methods of promoting public health and disease control are inadequate.

Fourth: That compulsory, state supervised sickness insurance is the best remedy for the condition.

Until these basic facts are proved he believes there can be no effective action.

Physicians should know of and appreciate the injurious effects of studying our own phase of the matter, neglecting the broad economics involved, and the disastrous results of holding aloof from active work in solving the problem. Citing England and its acts, he says that in formulating this most important concern of the physician, impossible of execution without his co-operation, Lloyd George consulted employer, employee, fraternal societies; every possible interest, without the slightest consultation or advice from the doctor. This product of Dr. Green's studies should be obtained and carefully studied by every physician in our country, its facts laid away to the day when it may be our great concern.

THE SURGICAL CLINICS OF CHICAGO.

The Surgical Clinics of Chicago. Volume IV., Number III (June, 1920). Octavo of 204 pages 79 illustrations. Philadelphia and London: W. B. Saunders Company, 1920. Published Bi-Monthly Price per year; Paper \$12.00; Cloth \$16.00 net.

This issue contains clinics on "Empyema," by Allen B. Kanavel; "Metastatic Prostatic Abscess," commoner than is generally thought, by Herman L. Kretschmer; "Perforated Gastric Ulcer," by David C. Straus; "Repair of the Common Bile Duct," by Arthur Dean Bevan; "Intussusception," by Alfred A. Strauss; "Tuberculosis of a Hernial Sac, With a Brief Consideration of Abdominal Tuberculosis in

General," by Daniel Eisendrath; "Persistent Mastoid Fistula After Simple Mastoid Exenteration," by George L. Shambaugh; "Acute Appendicitis and Gall-Stones," by Edward Louis Moorhead. There are many other valuable subjects by these clinicians and other subjects which limited space prohibits noting.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY (DORLAND)

A new and complete dictionary of terms used in medicine, surgery, dentistry, pharmacy, chemistry, veterinary science, nursing, biology and kindred branches; with new and elaborate tables. Tenth edition, revised and enlarged. Edited by W. A. Newman Dorland, M. D. Large octavo of 1201 pages with 331 illustrations, 119 in colors. Containing over 2,000 new terms. Philadelphia and London: W. B. Saunders Company, 1919. Flexible leather, \$6.00 net; thumb index, \$6.50 net.

You'll find in it Dorland is apt, timely and fitting. This edition is newer by a year than any other medical dictionary and contains hundreds of new words not to be found in any other work. All dictionaries are good, in constant demand by the busy, thorough student and physician, but Dorland has for years held a high appreciation of its merits in the minds of the medical connoisseur, until today it has no rival for wide value and practical worth. Arrangement of tables, clear cuts, marshalling of every possible bit of medical information in brief, but accurate and accessible form makes it a welcome prize in any library. The great war produced many useful innovations and words; Dorland has garnered all and included it in the new edition. The Author calls special attention to the historical aspect of medical terms, announcing that this feature is the product of America's ablest medical historian, Dr. Fielding H. Garrison, Principal Assistant Librarian's Office, of Surgeon General, Washington. Wherever necessary, terms of such origin are amplified with additional description in parenthesis.

The physician may be assured of the intrinsic worth in every detail of the work.

SIMPLIFIED INFANT FEEDING.

Simplified Infant Feeding, by Roger H. Dennett, B. S. M. D., J. B. Lippincott Company, Philadelphia and London.

This book has two things that at once must appeal to the reader. First, the lack of padding. Bring written by a physician for the use of physicians he assumes, and rightly so, that the most of us at least know that the esophagus empties into the stomach and that we have a general idea where the stomach is located. Also that most physiologies give rather a good description of the process of digestion. Second, the writer does not wander from his text, "Simplified Infant Feeding," and gives what we believe to be the best array of facts that has up to this time been presented for our consideration and education on this complex subject.—C. W. H.

CARE AND FEEDING OF SOUTHERN BABIES.

Care and Feeding of Southern Babies, by O. H. Wilson, M. D. Published by Baird-Ward Printing Co., Nashville, Tenn.

We quite agree with the author that some excuse is necessary for adding another book of this kind to the long, long list. The author offers as his excuse that his treatise relates directly to the care of southern babies. Just why the care of southern babies should differ from other babies, be they from the north or east, or even from Oklahoma, we do not know, and after reading the book we do not find that it differs in any of the methods employed by other writers on the same subject. In one instance the remark is used that a few weeks after birth the baby begins to kick. Our babies do not wait a few weeks before kicking, they kick at once. In another instance the writer recommends that the best bed for the baby during the first weeks is a bassinet, or a clothes basket properly lined. The best bed for a baby at all times is a bed, not a substitute. Also the change from long to short garments should never happen, they should be short from the beginning, the reason therefor being obvious. On page 34, the writer advises the use of an opiate—paregoric. This we believe to be a dangerous suggestion to be contained in a book that is especially written for the use of the laity.

We fully agree with the author that the work is repetitious.—C. W. H.

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ORAL SEPSIS AND ITS RELATION TO DIAGNOSIS.*

W. FOREST DUTTON, M. D.

TULSA, OKLAHOMA

Oral sepsis is a subject of much importance from a diagnostician's point of view. It is a condition that cannot be overstressed from the viewpoint of study and investigation. The mouth is a culture media for flora which under proper conditions is far reaching in its destructive effect upon the organism. Our present knowledge of the flora of the mouth, as related to specific affections, is fairly well outlined.

The harmonious and scientific co-operation of the dentist and the physician along bacteriological, pathological and diagnostical lines in the study of oral sepsis, is a fact to be applied in the very near future. The physician should not be ultra-conservative nor yet too presumptuous in his examination of the mouth. In this, as well as in any other part of the organism, every diagnostic method should be applied. A wrong diagnosis in a mouth condition is just as disastrous as in any other affection.

The chief infections within or about the teeth are: (1) Infections producing pyorrhea (so-called); (2) Gingival septico-pyemia; (3) Abscesses and necrosis in the jaw, or at the tips of the roots.

The mouth is the habitat of many bacteria. Some bacteria are non-pathogenic, others pathogenic. The number and variety depend upon the condition of the mouth.

There are two classes of organisms usually found in the mouth. The first class, *protozoa*, represented by the ameba, is an unicellular *animal organism*. The second class, *bacteria*, are unicellular *vegetable organisms*, represented by (a) cocci, such as staphylococcus, streptococcus, pneumococcus, etc.; (b) bacilli, such as the subtilis and pneumobacillus; (c) spirillum, such as the spirochete.

The ameba was recognized as occurring in the mouth by Gross, in 1849. Since that time various names have been given to ameba inhabiting the mouth, but all probably identical with the *entamoeba buccalis*. It is argued by some writers that the *entamoeba buccalis* is an etiological factor in caries, while others doubt that it really plays any active part in oral sepsis. Grossman maintains that, notwithstanding the fact of convincing arguments to the contrary, there is no doubt that in a certain number of cases the ameba does play an important role in the pathological conditions. Whether it produces this lesion alone or in conjunction with other organisms he is not able to determine.

A simplified method of examination of material for ameba is as follows: Take

*Read in Section on General Medicine. Mental and Nervous Diseases, Annual Meeting, Oklahoma City, May, 1920.

a warm, clean, glass slide upon which has been placed a drop of warm physiological salt solution and mix with it some of the material obtained from the pathological lesion. The film should not be too thick. The smear is then examined under the microscope. Should a stained specimen be desired, cleanse the area about the teeth and gums with a swab saturated in fifty per cent ethyl alcohol, and with a sterile platinum loop scrape the material from the margin of the gums, then smear lightly over a clean glass slide. Fix the smear with a few drops of methyl alcohol, and apply Giemsa's stain.

The predominating varieties of bacteria found in pyorrhea in the superficial pus pockets are the streptococci, diplococci, staphylococci, bacilli, spirochetes, in various sizes and strains. Pus taken from the deeper areas show that the streptococcus and staphylococcus group predominate. The streptococcus viridans and streptococcus hemolyticus can be demonstrated in almost every case. Frequently staphylococcus aureus and albus, bacillus fusiformis, micrococcus catarrhalis, and a diphtheroid bacillus are isolated.

The findings of Ulrich in an analysis of six hundred cases show that about 68 per cent of all artificially devitalized teeth were found with apical abscesses. In one hundred and fifty-nine cases having bacteriological examinations, one hundred and seven cases demonstrated streptococcus viridans, and fifty-two streptococcus hemolyticus predominating.

It was found in this series that, almost without exception, the alveolar abscesses were found in devitalized teeth. The devitalization had occurred either through caries with involvement of the pulp canal, or through artificial devitalization in preparation for fillings, crowning, or bridgework. Imperfect dental asepsis is also given credit for subsequent infections.

This analysis shows in a most graphic way the clinical manifestations due to streptococcal focal disease and may be classified as follows:

1. *Rheumatoid*, a class of cases which show conditions such as arthritis deformans, rheumatoid arthritis, neuritis, and myositis with or without cardiovascular involvement.
2. *Cardio-vascular*, a class of cases which are characterized by heart lesions or hypertension without evidence of rheumatoid conditions.
3. *Asthenic*, a class of cases characterized by joint and periarticular pains, muscle or nerve pains, amplified by asthenia, anemia, albuminuria, and myocarditis.
4. *Gastrointestinal*, cases in which gastrointestinal ulcers, acute enteritis, gall-bladder, or pancreatic symptoms are revealed.
5. *Genitourinary*, a class of cases with rheumatoid pains, and renal, bladder, prostatic, or vesicular involvement.
6. *Streptococcus focal infection* complicating anemia, tuberculosis, syphilis, or other systemic disease.

Goadby was one of the first to point out the relationship of dental infections to joint affections, and was probably a pioneer in demonstrating this relationship. Rosenow, in his work on focal infections, has isolated the streptococcus from affected joints and neighboring glands. He has shown that there is a close relationship between focal infections and arthritis.

The spirilla have been isolated in enough cases to justify its addition to the bacteriology of the mouth. The *treponema pallidum* is frequently found. Noguchi has isolated two varieties of organisms from pyorrhea which he calls *treponema mucosum* and *treponema microdentium*. These spirochetes develop rapidly in an inflammatory condition of the gums. They are not pus-producing organisms, but are in the class of infectious granulomata as leprosy and tuberculosis.

At this point I desire to call your attention to a fact that in the very near future will be brought clearly to the minds of the medical and dental professions. I refer to the mutation of bacteria under certain conditions. In the above paragraphs

much has been said about the organisms that are found in oral sepsis, yet nothing about the mutability of certain bacteria. Last year before this section I reviewed briefly my work on mutation of bacteria setting forth the change that infectious micro-organisms may undergo in the course of certain diseases. In an article on "Gingival Septicopyemia," published in 1918, much stress was placed upon streptococcus infection of the gums, more especially the hemolytic type. The streptococcus will change from a mild type of infection in the robust individual to a virulent infection when the resisting power of that individual has been greatly lowered. That is why a pyorrhea alveolaris, traumatism, gingivitis, and alveolar abscess may in a few days, or even hours, become a virulent infection.

It is the consensus of opinion that the streptococcus assisted by its worthy allies is the most serious offender in oral sepsis.

The discussion of the symptomatology of oral sepsis must of necessity show its relationship to the general health. There are very few persons of forty years or over who show advanced cases of oral sepsis that are normal physically. It has been shown that persons over forty or fifty who have perfect teeth are, to a surprising degree, free from chronic disease. People who have worn false teeth for a number of years have accordingly much better health than those of their age who have dental sepsis.

The local manifestations of oral infections such as gingivitis, decay, tartar, pyorrhea, alveolar abscesses, and defective dental work is familiar to most if not all of you and a minute description of them is unnecessary. There are, however, two common affections that should be remembered, i. e., blind abscesses, and imperfect root canal fillings. An x-ray picture is, as a rule, necessary in diagnosing these conditions. It has been demonstrated that imperfect root canal fillings cause a large proportion of blind abscesses (Duke).

The systemic manifestations as a result of caries, alveolar abscesses, pyorrhea, and other bacterial processes, lead to disease at a distance from the oral cavity in one of three ways, or perhaps in all: 1. The lymphatics. 2. Absorption of toxins and bacteria directly into the blood stream. 3. The swallowing of pus containing toxins and bacteria.

The symptoms to be discussed intelligently should be grouped under the various systems which they most frequently attack.

The *digestive system* is affected by such conditions as dyspepsia, flatulence, septic gastritis, gastric, and duodenal ulcers. There is often gall-bladder and pancreatic symptoms, and acute enteritis attributable to the enormous number of bacteria swallowed.

The *arthritic group* of symptoms have been fairly well systematized and a diagnosis should be made early in most cases. An early diagnosis with the institution of early treatment will prevent the deformities and suffering of these unfortunate persons. In this group of cases are found neuritis, myositis, rheumatoid arthritis, and arthritis deformans, with or without cardiac involvement. The parts most commonly affected are the muscles of the neck, the mandibular joint, the fingers, the shoulders, the knees, and the metatarsophalangeal articulation of the great toe. When the disease is of dental origin it is characterized by remissions and exacerbations. Days, weeks, or months may intervene between attacks. The attacks as a rule grow gradually worse. There is slight fever, if any. The joint slowly enlarges, is painful, movement exciting neuralgic pains. There is connective tissue hyperplasia about the joints and tissues, which eventually leads to nodules on the sides or ends of the distant phalanges (Heberden's nodosities). Redness and tenderness are wanting. The muscles of the affected limb waste, giving the joint a greatly hypertrophied appearance. Crepitation is distinct after ulceration has destroyed the articular surfaces.

The *nervous symptoms* may manifest themselves as choreic and epileptic attacks, or as tic, stammering, stuttering, restlessness, irritability, insomnia, mental derangement, and neuralgias.

Cardiovascular symptoms may manifest themselves in some form of arrhythmia, anemia, endocarditis, myocarditis, and arteriosclerosis.

Respiratory symptoms are often exhibited due to intense bacteremia causing partial respiratory paralysis. Septic sore throat, acute or chronic bronchitis, asthma, infarct of the lung, pulmonary hemorrhage, and septicemic forms of pneumonia may be traced to a septic condition of the mouth.

Many *diseases of the skin* such as urticaria, erythema, acne, eczema, seborrhea, herpes, and purpura may be manifestations of oral infections.

Such conditions as retropharyngeal abscess, otitis media, ethmoiditis, mastoiditis, and infection of the antrum are very frequently the result of oral sepsis. Foot and mouth disease and mercurial stomatitis are not, strictly speaking, due to oral sepsis.

A review of these systemic manifestations should impress upon your minds in the strongest manner possible the many diseases that oral sepsis may cause or be associated with. When by the process of elimination you have excluded every source of infection and even in the mouth you find no evidence of disease on inspection, do not make your diagnosis until you have employed the x-ray.

Talbot, recently, in discussing focal infections points out the necessity of bearing in mind the seriousness of these conditions as affecting pregnancy. He relates his experience and maintains that all known foci of infection when associated with pregnancy should be removed.

The writer's attention was recently called to an article in which the case, simulating in every respect locomotor ataxia and exhibiting the typical girdle pain, immediately cleared up on the removal of several carious teeth.

A case of encephalitis lethargica in a man 32 years old came under my service some time ago. He was smitten with the lethargic complications while convalescing from acute enteritis. He slept most of the time for six weeks. After removal of two abscessed teeth that had infected the left antrum, he began to convalesce and made a good recovery.

A few weeks ago I was called in consultation to see a patient of 45, and, by the way, one of Oklahoma's most famous jurists. The history revealed that he had been treated for five years by two eminent physicians for gastritis. He had grown progressively worse until he was moribund. Briefly, I shall describe to you what happened in this case. Six years ago the patient's teeth became carious, gingivitis and pyorrhea developed. The x-ray did not reveal any apical disease. Hence, it was inferred that no great amount of absorption was taking place. In fact, absorption was taking place and amyloid degeneration of the kidneys, liver, and high blood pressure developed. Gingival septicopyemia was the finale of this man's life.

While some physicians are too conservative, others are too hasty in arriving at a diagnosis, or better say, conclusions. Another case, a woman of 55, was very nervous, had flatulence, constipation, headaches, insomnia, and gradual loss of weight. All her illness was attributed to the teeth. The teeth did not show any marked pathological condition but were extracted. Two years had elapsed, yet she was not relieved. Ten weeks rest in the recumbent position with the abdomen strapped to support the viscera relieved the gastropotosis. The recovery was rapid.

Teeth should be x-rayed before and after treatment. Diagnosis based upon x-ray studies alone is unwise, since many conditions may or may not exist which are not shown. The local and clinical features should be studied with extreme caution and care observed in ascribing a systemic infection to the mouth condition. Bacteriological study in oral sepsis should always be a part of the diagnostic procedure.

Gentlemen, I shall call your attention to a few words of warning and admonition. Beware of the influence of propaganda of focal infections. Our learned profession has often swung the pendulum beyond the plumb line of reason. In

years gone by, bleeding was performed for every ailment from ingrown toenails to prolapse of the uterus. Colons of epileptics short circuited for lack of insulation. Appendices removed to prove that the human race had little claim to prehensile tailed ancestors. Tonsils snared indiscriminately to lessen voice culture and the ovaries evulsed to promote race suicide. I have, however, always maintained that prevention is better than cure. I do not believe in the universal removal of tonsils in children after a certain age. Neither can I agree with the exodontist who believes that the removal of all the teeth in children of a certain age will free the rising generation of all the ills that flesh is heir to. I do now, and ever after, protest against the too free use of organic mutilation as a panacea for human ills. I do, however, believe in sane, sensible, scientific diagnostic co-operation of the physician, radiographer, bacteriologist, and dentist.

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DISCUSSION.

Dr. Ellis Lamb, Clinton: I have not viewed the paper or given the subject very much personal thought but I am very much interested in the paper and will say this, that in our oral infection we have very much in common with our chronic cases of indigestion. We have very much to do in common with our cases of chronic gastritis, followed subsequently by our gastric ulcers. Furthermore, we have a great variety of diseases following oral sepsis and following tonsil infection. I have noticed a train of symptoms; notably the gall-bladder infection seems almost invariably associated with our root abscess. Furthermore we have it proven by Rosenow and others, for we have for years past had a goodly per cent of our cases of appendicitis come from our root abscess, where the pus causes pressure in the root canals. In doing a little x-ray work on the diagnosis on the oral sepsis, and particularly the abscess, we find it is notable in all these cases. In my opinion in all cases of arthritis, endocarditis and muscular rheumatism, we should not be satisfied looking at the throat but should make every endeavor to find where it comes from. We should look at the teeth with the x-ray.

Dr. Dutton: Mr. Chairman, I do not have a great deal to say in closing. I want to say this, that the subject is a broad one. The paper deals with the subject more in outline than in detailed discussion. I would like to add this—that I believe the general practitioner will be well repaid if he advises the patient to have the teeth x-rayed before and after treatment. The x-ray is a wonderful adjunct in oral conditions. That is the point I wanted to emphasize the use of x-ray before and after treatment.

603 New Wright Building.

DENTAL SURGERY AND ORGANIC HEART DISEASE.

P. J. Calvy, Fond du Lac, Wis. (*Journal A. M. A.*, May 1, 1920), cites cases in which an existing heart affection was made worse by extraction of teeth. He ascribes this to lack of drainage of the infected area, such as an apical abscess. After extraction, the tooth socket is filled with a firm clot of blood which precludes drainage and affords an ideal soil for the rapid growth of bacteria; and the traumatism to the structures around the tooth greatly increases the opportunity for absorption. It is under such conditions that there is a rapid rise of temperature, increased pulse rate, and an acute attack or exacerbation of a chronic trouble, as exemplified by the history in two cases cited.

SCARLET FEVER.*

JOHN A. RODDY, M. D.

OKLAHOMA CITY, OKLAHOMA

Three years ago it would have seemed superfluous to address a meeting of this character on the subject of scarlet fever unless it were to disclose a specific cause or cure, but the experience of many since then has indicated the desirability of reviewing the established facts more frequently than has been customary.

If, in considering the infectious diseases we think of pneumonia as "Captain of the Men of Death," as did the illustrious Osler, we must think of scarlet fever as "The Most Baffling of Exanthemata." It more frequently eludes us than any of the other contagious diseases.

OCCURRENCE.

This disease, first clearly differentiated from similar exanthemata by Sydenham, has been known for many centuries. Asia and Africa have remained relatively free of it; Western Europe has been its most fruitful soil; the Western Hemisphere was free of scarlet fever until 1735, when it first appeared in Massachusetts; it took ten years for scarlet fever to spread over the New England States and nearly fifty years to spread over all of the United States; a century elapsed between its first appearance in North America and its introduction to South America. Since 1840, sporadic cases have been constantly present in most of our communities and at irregular intervals it assumes epidemic form, the epidemics lasting from one to several years.

Our Southern States so far have been affected much less than the North. The factors governing the geographical distribution and epidemic cycle, like the specific cause, are unknown. The seasonal incidence of this disease varies somewhat in different countries, as a rule it is most prevalent in autumn and winter. If our knowledge of contagious diseases in general, and the history of scarlet fever, may be taken as guides, we may expect scarlet fever to assume epidemic form at least once in each decade, and to show a larger proportion of sporadic cases in our cities as they grow unless the practice of preventive medicine progresses in proportion to our increase in population.

CLASSIFICATION.

Scarlet fever is an infectious disease caused by an unknown organism. It is contagious, but less so than smallpox, measles, or diphtheria. Its distinguishing features are abrupt onset, continuous fever, angina, and punctate scarlet rash that tends to cover the entire body; its chief characteristic is the irregularity in intensity of each of these distinguishing features, and of the disease as a whole.

TRANSMISSION.

The work of observers too numerous to mention has established the fact that the specific cause of this disease is transmitted directly in the majority of cases by nasal and buccal secretions, and that these secretions are infectious from the beginning of the disease well into the period of convalescence. It may also be transmitted by fluid or pus from the nose, and suppurating foci complicating or persisting as sequelae of the disease. Milk-born epidemics are not uncommon. McMalcom and Place have cited instances showing that one-half hour intimate contact with a scarlet fever patient is sufficient to produce infection; that one and one-half hours spent in the same room with a scarlet fever patient, but not in contact with the patient, has resulted in infection. The belief that utensils and clothing of scarlet fever patients may transmit the disease for a long time, has lost most of its importance but has not been entirely discredited. It is generally believed that scarlet fever is perpetuated by persons having mild unrecognized cases

*Prepared for Annual Meeting, Oklahoma City, May, 1920.

and those with nasal discharge or other sequelae. Few now believe in transmission by desquamated epithelium. Fifteen years ago Osler thought little of transmission through a third person. In the fifth edition of his Practice, he speaks of knowing of one such transmission and only one. There is no evidence of this being an air-borne disease outside the sick room. To these observations I wish to add several of my own: (a) transmission by carriers; while most writers do not mention this or do so to belittle it, I have observed at least one such occurrence and probably several; (b) under conditions most favorable to transmission by a third person, I have been unable to discover such; (c) under conditions very favorable to transmission by clothing, I have been unable to discover a single case so acquired; (d) I know of no more impressive example of the relatively slight degree of contagiousness of this disease, also of its persistent nature, than that afforded by the epidemiological occurrences at Fort Sill during 1918 and 1919, much of which has been published. Within a few months after the mobilization of the 35th division, diphtheria became epidemic and most elaborate measures were required to control it. In less than six months from the time of mobilization one-third of the men were diphtheria patients or carriers. Twenty-four hours after the first case of influenza was admitted to the hospital during that epidemic, one hundred cases developed in camp, and within a few weeks there were 2000 cases, this in spite of the most careful observation of preventive measures for weeks prior to and throughout the epidemic. Scarlet fever was endemic in camp for months, yet there never were as many as fifty cases at a given time and spread of the disease from regiment to regiment did not occur.

ETIOLOGY.

As to a specific cause of scarlet fever there are three theories: streptococcus, protozoon, and filterable ultra-microscopic virus, the first being the most seductive. The most suggestive evidence brought forth in support of these theories may be briefly summarized as follows: since Floyd obtained cultures of streptococci from the blood in 20 per cent of a large series of cases in the Boston City Hospital, numerous investigators have regularly done so in severe cases. Tunnecliff found opsonic index for streptococcus low very regularly during scarlet fever with an increase coincident with recovery. Duval and Mallory later reported the occurrence of round and oval, granular, protozoa-like bodies, usually $2n$ to $7n$ in diameter, occasionally twice as large, regularly present in affected areas of the skin. Benhardt produced the disease in monkeys by injections of filtered serum removed from scarlet fever patients. Whatever the specific organism inaugurating this disease, streptococci usually play a more or less active part, frequently the dominant role in the production of symptoms and pathological changes.

PATHOLOGY.

Much has been written on the morbid anatomy of this disease that cannot be discussed here. The clinical pathology, like everything else related to scarlet fever, has as its chief characteristic irregularity and this must be constantly in mind at the bedside as well as in the consideration of group descriptions; no better example of this can be presented than the observations of different skilled clinicians; Osler states, "The spleen is often enlarged, endocarditis and pericarditis are not infrequent. Myocarditis changes are less common. The renal changes are most important. Affections of the respiratory organs are not frequent." McMalcom and Place tabulate the complications of scarlet fever in order of frequency and gravity as follows; "bronchopneumonia, inflammation of the middle ear, suppuration of the cervical lymph nodes, pleuritis, inflammation of the antrum of Highmore, abscess, acute interstitial nephritis."

The angina common to scarlet fever is intimately associated with streptococci; the tendency to development of nephritis in all cases and its frequent occurrence are constant factors that should govern the plan of treatment in aberrant cases and scarlatina benigna, as well as the more severe and complicated cases. In

septic and toxic cases, the clinical pathology is that of severe streptococcic infection with streptococcemia. The angina is generally streptococcic but the well known hypersusceptibility of scarlet fever patients to diphtheria suggests the desirability of a Shick test and throat culture in every instance. The occurrence of a complication or complications is evidence of the migratory tendency of the infecting streptococci.

TYPES.

Typical scarlatina benigna and septic and toxic scarlatina are rarely unrecognized or mistaken and need no discussion here. Aberrant scarlet fever is most deserving of attention. These cases are quite as numerous, if not greater in number, than typical cases. They are more frequently unrecognized than discovered and treated, and are probably the greatest factor in perpetuating the disease. They may for convenience of description be divided as follows: (a) scarlatina sine eruptione; these cases are frequently mistaken for mild, moderate, or severe tonsillitis; (b) extremely mild cases with slight or no prodromes, mild fever and sore throat of short duration, and faint transitory rash; (c) cases in which the rash is coincident with that of measles or chicken pox; (d) fulminating scarlet fever.

DIAGNOSIS.

While this is a disease of abrupt onset, nevertheless slight malaise and indisposition lasting from one to four days occurred in 28 per cent of cases I have seen. Caiger observed vomiting at the time of onset in 80 per cent of cases, not infrequently accompanied by diarrhea. The temperature begins to ascend with onset of symptoms and continues to rise until the rash is fully developed. The elevation is as a rule proportionate to the severity of the attack, its continuance the same, and terminates by lysis. Inflammation of tonsils and sore throat is the most constant symptom even before appearance of the rash; this was the first sign of the disease and preceded the rash from one to four days in eight out of 54 adults who developed typical scarlatina benigna. The development of the rash on the first or second day of the disease is one of the distinguishing features, yet there are numerous exceptions, its appearance delayed until the third, fourth or fifth day after onset of symptoms. Appearance of the rash on the first or second day facilitates the diagnosis of scarlet fever, a delay in its appearance should not, per se, mitigate against it. The characteristics of this rash most helpful in the diagnosis and differentiation are: bilateral distribution, frequent accentuation on the inner surfaces of arms and thighs, in the axilla and groins; freedom of the face except for a blush-like erythema of the cheeks; its tendency to appear first on the chest, involvement of the palms of hands and soles of feet. In appearance, the rash of scarlet fever varies according to the severity of the attack. In mild cases it may be nothing more than a faint blush, limited to the axilla or sides of chest, axilla and arms, or involving most of the trunk and extremities, disappearing within a day or two after its occurrence; in some cases it is so faint or transitory as to entirely escape notice unless searched for by a trained eye. In other benign cases the rash will exhibit one or another of the following appearances: (a) an erythematous blush with distinct puncta; (b) a deep scarlet flush without visible puncta; (c) part of body appearing as "a," and part as "b"; (d) the same as above plus miliary, milky vesicles, generally distributed or confined to certain areas. The tongue frequently but not always presents a characteristic appearance, a creamy-white coat through which the papillae of the tip and lateral margins appear bright red. Occasionally there is a red punctate rash on the buccal mucosa; the uvula is usually swollen and in some cases edematous, the tonsils are inflamed and often partially or entirely covered with a pseudomembrane not unlike that occurring early in diphtheria. The throat is usually sore, perhaps swollen, and deglutition painful; in severe cases with high fever delirium is common; when there is profound toxemia stupor is present. Mild aberrant cases, which commonly go unrecognized, nearly all present one or several of the above signs of such degree that careful, complete inspection discloses the nature of the case. The most difficult cases, from every point of view, are such as

present no signs other than those of streptococcic tonsilitis; certainly there are many more cases of acute streptococcic tonsilitis not associated with scarlet fever than are; however, a study of the complications and sequelae in these cases indicates the economic as well as medical propriety of treating them all as scarlet fever. This is especially true in milk-borne epidemics and in other epidemics affecting adults. It has been repeatedly observed that when an epidemic originates from milk there is a coincident epidemic of streptococcic tonsilitis affecting consumers of the same milk supply. Most of the cases of scarlet fever contracted in hospitals, that I have seen, resulted from contact with patients having a condition diagnosed as streptococcic tonsilitis; they all originated in throat wards. Fulminant scarlet fever is rarely unrecognized as such during the course of an epidemic; fortunately such cases are very rare except during an epidemic; at the beginning of an epidemic, however, even the most experienced have mistaken them for confluent smallpox, which error it may be impossible to escape. Errors in differential diagnosis from drug rashes, measles, German measles, and erythema infectiosum, while at times embarrassing, are never harmful if one follows the rule to treat all suspected and doubtful cases as scarlet fever, that is, when the patient is confined to his home, or an isolation ward; it is a matter of grave importance, however, if unfortunate conditions necessitate the removal of the patient to a measles or scarlet fever ward. The principal distinguishing features may be summarized as follows: (a) drug rashes, quinin, strychnin, atropin, copabia, and iodine internally administered, iodoform and bichlorid of mercury washes are drugs capable of producing rashes simulating scarlet fever. When these drug rashes occur in a patient previously free of fever, the temperature either remains normal or rises only to subside within twenty-four hours. The throat is not affected, the tongue has not the prominent red papillae showing through a white coating, leucocytosis may not occur, and contacts convalescent from scarlet fever are usually not discoverable; (b) measles, Koplick spots are visible on the buccal mucous membrane of nearly all measles patients and never present in scarlet fever; a fine red rash in the mouth of scarlet patients is not uncommon but never observed in measles, the coryza of measles is absent or less pronounced in scarlet fever, there is usually no leucocytosis in measles and if present it is usually less than 10,000; in scarlet fever there is usually a leucocytosis of from 10,000 to 20,000; search for contacts will in the case of scarlet fever usually reveal other scarlet fever patients or desquamating convalescents or point to a milk-borne infection; measles is not a milk-borne disease, and in the case of measles other cases are usually found; (c) German measles, when it simulates mild scarlet fever, is most difficult if not impossible to differentiate; (d) erythema infectiosum is said to be distinguishable from scarlet fever in that it presents a macular rash and no throat symptoms; I have never seen a case of this disease.

TREATMENT.

The objects to be attained are minimizing virulence of invading streptococci, attenuating toxemia, and precluding as far as possible migration of streptococci; by so doing we alleviate symptoms and minimize complications and sequelae. The first procedure in the accomplishment of these desirable ends is to swab the nose and throat with salt solution, followed by tincture of iodine and fifteen minutes later with 20 per cent silver nitrate solution after which the nose and throat should generally be left alone. The administration of calomel, salts and castor oil is contraindicated; free elimination should be assured by an initial high soap-suds enema, followed by a daily enema of normal salt solution. From the first day of the disease the patient should be at absolute rest in bed and maintained so for at least two weeks after the subsidence of symptoms and fever; this minimizes migration of streptococci, complications and post-febrile nephritis. Copious draughts of water tend to preclude toxemia. Nourishment should be adequate. The development of symptoms of toxemia is an indication for prompt institution of continuous proctoclysis and if this fails to alleviate it, a transfusion, augmented by intravenous administration of about 200 cc. of antistreptococcus serum, is indicated.

Streptococcemia and multiple foci of infection are also indications for transfusion and serum treatment. Complications—The development of surgical complication is an indication for consultation if available before institution of operative procedures. Evacuation of pleural or pericardial effusion or pus should not be attempted, except for relief of serious symptoms, until the advent of recovery.

BATHS.

Contrary to prevalent lay belief, the presence of the rash of this disease is no contraindication and a warm sponge bath, daily, is productive of good, not harm. When temperature is high (above 103° F.) an ice cap and frequent cold sponges or cold packs are efficacious.

DESQUAMATION.

The fainter and more transitory the rash, the longer the lapse of time until desquamation begins and the slighter the desquamation. Desquamation may not begin in very mild cases until several weeks after disappearance of the rash; usually in moderately severe cases it begins one to five days after the rash fades; in more severe cases desquamation not infrequently is observed while the rash is still present. The character of desquamation varies so greatly that to distinguish it from desquamation from other causes is frequently impossible.

PERIOD OF INCUBATION.

Consideration of the period of incubation is a matter of importance in determining the length of time contacts should be quarantined; it has no diagnostic value. Many distinguished clinicians differ widely in their expressed opinions on the duration of the period of incubation. Some state it is from one to three, others one to seven, three to twelve, and three to twenty-one, usually ten to twelve days. Obviously some of these opinions are based on erroneous or insufficient observation. The minimum period is relatively unimportant in determining the proper duration of quarantine of contacts. My own observations have been insufficient to determine the period of incubation, but it is worthy of note that under favorable conditions for accurate determination I have observed six and probably more cases in which the period of incubation was between fourteen and twenty days. I am therefore convinced that the period of quarantine for contacts should be at least twenty-one days.

PROPHYLAXIS.

The most effective prophylactic measures are accurate diagnosis and proper treatment; I believe these two more effective than all others combined. Accurate diagnosis requires more than a knowledge of signs and symptoms of scarlet fever and the other conditions with which it may be confused; it requires a careful, complete examination of every patient, including smears and cultures from all sore throats and purulent nasal discharges. Proper treatment in addition to medication includes effective barriers between the patient and other individuals, surrounding the patient's bed with sheets and restricting admission to enclosure to the patient's attendants; sterilization of sputum, nasal and other discharges before they are disposed of; sterilizing the eating utensils and soiled bed clothing and observation by nurses and doctors of the decent precaution of washing hands after attending patients.

QUARANTINE.

Economic and political factors largely limit quarantine of contacts to children of the family in which a case of scarlet fever develops, and if all contacts are subjected to frequent inspection for three weeks and the source of infection searched for, this is probably sufficient. When contacts are placed in quarantine it should be for a period of three weeks. The patient should remain in quarantine until all signs of the disease disappear, or until discharging lesions, complicating the

disease, have become free of streptococci; in no instance should quarantine of the patient be less than six weeks.

SOURCE OF INFECTION.

When a case of scarlet fever is recognized, examination of the patient's associates not infrequently will reveal a possible source of infection in the person of a contact convalescing from the disease who is at large but should be in quarantine; at times a carrier will be detected. If the infection has not been transmitted from person to person, it will usually be traceable to the milk supply.

It is impossible in many cases for the attending physician to make these investigations, rarely is he in a position to do so as effectively as municipal, county, or state health officers, yet, next to correct diagnosis and proper management of the patient, this is the most important prophylactic measure and for this reason, if for no other, it would be highly desirable for the physician to notify his local health officer as soon as a diagnosis of scarlet fever is made.

612 American National Bank Building.

A QUARTER CENTURY OF SERUM THERAPY IN DIPHTHERIA.

In a recent address before the Academie de medecine of Paris, Louis Martin¹ recalled that in September, 1894, Roux communicated to a medical congress in Budapest the results of his pioneer studies on the serum therapy of diphtheria. To physicians of the present generation it seems long ago that Behring and his collaborators, Kitasato and Wernicke, definitely showed that the cell-free blood serum of animals immunized with diphtheria toxin acquires the power to protect other animals of the same and different species against the poison. Yet, in the quarter century that has elapsed since Roux put to the test of human clinical experience the treatment discovered by Behring, what enormous practical advantages to mankind have been derived from these brilliant scientific investigations. The outcome with the first larger group of diphtheria patients who received no other medical treatment than administration of antidiphtheritic serum was so striking that the procedure found prompt recognition from clinicians. Serum therapy in diphtheria became an accepted method. It is unnecessary to dwell on the fact that the mortality in this disease has been reduced from 30 per cent or more to 8 per cent or less in practice. The beneficial results can be learned from the experience of every community in the civilized world. The maximum of therapeutic efficiency has not yet been reached. With speedier diagnosis, with more direct methods of introducing the antitoxin, with better concentration and preparation of the latter, and with more heroic dosage in emergencies, the results seem destined to become even more favorable than they have been in the past. Now that the war is over and men can once more turn their thoughts to activities that are worth while, let us remember that the discovery of diphtheria antitoxin was not an overnight affair or a chance find. Only patient, laborious researches brought ultimate success. In the study of diphtheria, by which such brilliant results have been achieved, the laboratory and the clinic have worked hand in hand. Looking forward to further great discoveries in the domain of medicine, let us not fail to encourage in the case of other diseases likewise this fruitful collaboration between science and practice.—*Jour. A. M. A.*, Dec. 27, 1919.

1. Martin, Louis: Vingt-cinq annees de serotherapie antidiphtherique, *Bull. de l'Acad. de med.* 82: 173 (Oct. 14) 1919.

QUININ IN INFLUENZAL PNEUMONIA.

Excellent results are reported by A. J. Caffrey, Milwaukee (*Journal A. M. A.*, April 24, 1920) from the use of quinin hydrobromid in the treatment of influenzal pneumonia. It seems to have given more satisfaction than the sulphate, in that the patients seemed more restful, it reduces the fever promptly, and in most instances keeps it under 100 F. Caffrey gives 25 grains for the first dose, 10 grains for the second dose, and continued throughout the course of the disease with 5 grains every four hours. He has never had a complaint of quinin amblyopia or marked tinnitus aurium and head noises which patients usually complain of when the drug is used in other troubles. Among twenty-seven patients receiving this treatment with other auxiliary drugs, such as digitalis, atropin and pituitary extract, good nursing, nourishing diet, fresh air, etc., there was only one death.

TREATMENT OF LYMPHATIC DERANGEMENT.*

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When a physician has had a sudden unexplainable death occur in his own practice, or within his intimate knowledge, he then turns to the subject of lymphatism or status lymphatism, as a possible explanation, and for a deeper knowledge of the relation of the lymphatic system to the vital force.

Some years ago, Prof. Langerhans of Berlin lost a son following the simple administration of antitoxin as a diphtheutic prophylactic, as we have occasionally heard of since then. A sudden death in the early stage of an adenoid and tonsil operation is not always explainable by heart failure or the anesthetic; the death of a swimmer from cramps—these and other instances cause us to think a little more seriously of the physiology of the lymphatic system, so long neglected, in part, in our text books.

Pediatricians have frequently studied the over-activity of lymphoid structures of bronchial mucous membranes and gastro-enteric tract in infancy, and its diminishing after the second year to be scarcely noticeable at the fifth or sixth year, while the tonsils and adenoid growths, like weeds, in the pharynx and their accompanying enlargement of cervical glands should attain their maximum at the seventh or eighth year, to become minimum at puberty though there are over 33 $\frac{1}{3}$ per cent exception to this law of development.

The lymphatic system first shows the warning of acute and chronic infections of mucous membranes, by the enlarged lymph nodes, and the hypersecretion of the lymphatics of mucous membranes.

Before discussing further the lymphatic system, let us accept Da Costa's statement that "*lymph feeds the body cells and lymph carries away the waste materials, thus being similar to the influx and efflux of water, in our modern city water system.*"

The lymphatic circulation carries the constituents of the plasma into the perivascular lymph spaces, and returns it to the heart by way of the lymphatics and certain veins.

The system consists of lymphatic glands, the large and small lymphatic vessels, or capillaries, the perivascular lymph spaces, the lymph canalicular system and the body system, and the ductless glands (co-operating with the liver and spleen) and other internal glands, with ducts, and the lacteals, containing the chyle, as a product of digestion which pass it into the blood through the thoracic duct, the pleural, pericardial, peritoneal, and synovial cavities are a part of the lymphatic system and the inflammatory exudates, bears abundant evidence of lymphatic derangement in these localities. The next work of lymphatic capillaries, surrounding blood vessels, carry abundant lymph, a fluid, like water, and these smaller lymph capillaries are absorbents, for they possess the power of absorbing certain materials from the tissues and conveying them into the circulation.

We have not cast aside mercurial inunction as a treatment for luetic blood, because we are more direct in the intravenous medication.

The smaller lymphatics branch by union to larger lymphatics, which become trunks, these to unite into ducts. Only the non-vascular structures such as cartilage, nails, cuticle, and hair have no lymphatics.

Having thus looked briefly at the lymphatic system, we will note the factors controlling the flow of the lymph:

The mechanical theory shows these forces to be acting, first, through the intracapillary pressure, tending to filter the plasma through the endothelial cells composing the walls of the capillaries; second, that form of molecular energy which

*Read in Section on General Medicine, Annual Meeting, Oklahoma City, May, 1920.

gives rise to the phenomena of diffusion and osmotic pressure, being due to differences of concentration of dissolved substances.

These two forces, acting everywhere, control primarily the amount and composition of lymph.

A third factor is considered when we note the striking difference in the flow of lymph in the different parts of the body. This is normally comparatively scant in the limbs, abundant in the liver and intestinal area, where absorption is active, and finally ending in the thoracic duct. Starling says that these differences may be explained by the variation of permeability in the capillary walls.

Experiments show that the concentration of bases, especially of the calcium content, in the substance of the vessel walls, may affect greatly their permeability and physical properties. This element varies greatly with water and character of the food or in general, with the composition of the blood.

That imbalance of lymph so noticeable as edema, dropsy, and ascites, is due to varying permeability of capillaries, and is found with a high or a low blood pressure with the overfed and the starvation type. This type was discussed in an article in an April Journal of the A. M. A., by Dr. Marie Maver, of Chicago, in "Nutritional Edema and War Dropsy." She goes exhaustively into historical research to show the effect of impaired nutrition on the lymphatic system, classifying this as "deficiency disease," due to a protracted existence on a diet deficient in that calories, especially proteids. She carried out a number of dietic experiments with animals to prove her conclusions, one of which, that a dry diet would not produce the edema though the same with all liquids desired produced the edema. She quoted various authors to prove that the lack of calcium fat and phosphorus in the blood, too little of fish or vegetables, proteids and vitamins, are common in war edema, which is in Europe, at least, a prevalent serious lymphatic derangement. A careful study of diet is our first aim in lymphatic derangement.

De Lee says that more than half of all pregnant women show some edema of feet, hands, or face. When this is a non-pitting elasticity, we consider it an obstruction by pressure on the abdominal lymphatics and blame the kidneys, or fluid system, if there is "dropsy" as shown by pitting or pressure.

A food of low caloric value, either from quantity or quality, is often the causative factor of eclampsia, as well as other lymphatic derangements.

Anemia of pregnancy of whatever degree should put us on our guard lest pernicious anemia be the result, as shown by persistent weakness, shortness of breath, and edema of extremities. A blood picture of our first attention to the anemia is a good feature of our records, whether the patient is pregnant or not—marasmus of infants with its accompanying edema or lymphatic derangement is a serious prognostic symptom to all pediatricians. The lymphatic system fails before the heart does, for it is through the nutritional processes that the heart derives its force, and that life becomes growth. Intestinal parasites, such as hook worm, sometimes present a blood picture similar to pernicious anemia.

In the past two years while making physical examinations of over 10,000 school children between six and sixteen years of age, I have been much interested in the observance of lymphatic derangement, as manifested by excess obesity in some instances, by malnutrition in others, by infiltration of cervical lymph glands, by evidences of hypo- and hyperthyroidism, by symptoms of hook-worm, by deformities, infections and other evidences of lymphatic derangement, which if uncorrected by surgery, medical attention or environment, will not assure a sturdy manhood and womanhood.

It is sometimes shocking because the family practitioner will not be concerned about conditions in the patient, which are not classed among the diseases regarded as sickness and yet need far more skilled attention.

Cervical lymph nodes often mediate an infectious condition in nose, mouth or fauces, that may or may not be tubercular, but, needing attention. The large

number of tubercular subjects may be charged often to neglect of hygiene and infectious foci, thus weakening the body's resistance to the tubercular enemy.

We talk sanitary efficiency, education of the people, and inoculation to prevent typhoid, but the responsibilities to rich and poor alike are heavier to prevent tuberculosis.

Every infectious focus should be viewed and treated with suspicion. And all infections not promptly responding to the best therapy should receive surgical treatment, when such is indicated.

Prophylactic measures begin in early youth when we teach the child that every decayed tooth or infected tonsil is a menace to health and a poison draining into the lymphatic system. We vaccinate as a protection against variola, diphtheria, typhoid, tetanus, etc., but the lack of physiology and hygiene taught in the grades under the sixth, below which over 70 per cent of our population complete their education, is a sufficient reason for the mass of people's ignorance in health measures and their easy belief in the teachings of the quack and the charlatan. We should see that a practical knowledge of physiology is taught in the fourth and fifth grades, displacing with little detriment the geography, if need be, that is taught in those grades. We will then have more intelligent patients to deal with. The large number of deaths in middle life due to cancer, should compel us to teach people the early signs and symptoms, for when the lymphatic system is largely involved it is well known that surgery, radium, x-ray, or drugs may not produce a cure, though some cults may secure a belief in the cure without all these while the disease goes marching on.

We are not so worried about encountering the malignant lymphadenoma known as Hodgkin's disease, as this is rare in youth, though we should be able to differentiate the simple lymphoma of youth and adults from Hodgkin's.

Auto-intoxication of whatever degree shows us that the ductless glands and lymphatic activity is deranged and that excretory and secretory power of glands are not properly functioning. We usually begin by stimulating the secretory function of the liver, which method we have learned and practiced from ancients.

The spleen, in its white corpuscle formation, like the lymph glands, may become so diseased in function as in leucocythemia that it enlarges while the excess is carried away by the lymphatics.

Electric currents applied over the spleen during this condition starts the leucocytes flowing through the blood. Few of us nowadays that do not agree with Sajous that immunizing medication is the foundation of rational therapeutics and that bacterial vaccines as well as drugs and food cause the blood to become richer in throidase (opsonin), with the phagocytes and auto-intoxication to destroy them.

Under the guiding influence of the pituitary gland, the adrenals and thyroids supply the secretion to destroy the germs.

No one in general practice but considers the effect of climate, seasons, altitude, latitude, and weather conditions on many patients with disease and the effect of hydrotherapy to a greater or lesser extent, which we permit to be used.

The partial or full immersion bath, hot or cold; douches, packs, icebags, hot-bags, turkish baths, enemata, lavage, clysis, etc., are useful in various lymphatic derangements. Some disturbances of metabolism require all our knowledge plus the wisdom of experience of other practitioners, to secure and re-establish health before the prognosis is unfavorable.

First comes our clinical diagnosis, which should be the leading talent of the physician, and this when necessary corroborated by the laboratory findings.

Second, our knowledge of functional standards and the departure from the normal should be freshened by a frequent study of the latest physiology, plus our post-graduate studies, while the surgeon reads his anatomy as a Christian minister reads the Bible.

Third, our up-to-date knowledge of modern therapy should follow Pope's

rule of diction: "Be not the first by whom the new are tried, nor yet the last to cast the old aside." We must get in the habit of thinking of and observing the lymphatic functions and derangements, both nutritional and infectious, and thus connecting with metabolism and catabolism the lymphatic glands and the internal glands as excretory and secretory organs and then from the mechanical standpoint alone, not considering the important element of psychological force, we can see when the human body like a well-cared for car having its gasoline system, its electric currents, water and oil, with its mechanism duly adjusted and operated, will function smoothly—provided the materials of the manufacture were first class in the beginning.

When functions of the human body will not get right, we consider the personal equation as affected by hereditary influence and environment, and if of leitic, insane, cancerous, epileptic, or tubercular ancestry. We have conditions to treat that would sometimes seem hopeless. Hopeless suffering humanity, when such is admitted by all, should have an euthanasia, and it is our duty to educate public opinion to the righteousness of this procedure.

Public health opinion is putting a heavy responsibility on the physicians in educating the 75% to 90% of people less educated than we are, to correct views of health and disease and not leave this to the forty-odd cults and their ignorant following, who know nothing about the human body as physicians must, with their twenty years of continuous study and education before we even attempt to begin the practice of medicine.

DISCUSSION.

Dr. C. S. Bobo, Norman: I have heard with a great deal of pleasure Dr. Sanger's paper. I think she has covered the ground so thoroughly she has not left very much to discuss. Not knowing very much about the symptoms, any more than I do, that of the general practitioner who has no opportunity to work out those things, but simply to observe them, I find the subject of her paper a very pertinent one and one that every physician should give more study to than we have, and that is the system of transmitting diseases and the disturbances should be given more importance than we have given it. I think the doctor's paper was very good and I am sorry I cannot make a more extended discussion on it.

Dr. C. J. Fishman, Oklahoma City: I regret that I did not hear all of the paper but the enlargement of the lymphatic glands is so frequently seen that we should investigate and find out the origin and trouble of all granular enlargements. There has been no definite scientific findings that the lymphatic glands have any internal secretions. It has been repeatedly shown that the lymphatic gland is a carrier and a store-house for some infected point. We may accept these enlarged glands as a case of infection somewhere in the body. The enlargement of these glands points in the direction of some sources of infection. The upper chamber of the glands point to an infection in the tonsils. Sometimes the infection is not evident from the outside. The tissue is buried. Therefore, if we have enlarged glands and we look for the focal infection point, we will find there is some infection.

Dr. Sanger, closing: Thank you, gentlemen, for your discussion. I want to add further that I think it is the duty of the health doctor to see that someone in their town sees to public health. In my work as medical inspector I find among the teachers, and pupils especially, so much opposition in regard to proper treatment of the tonsils.

MEASLES, BRAIN COMPLICATIONS.

Two cases of measles seen by A. L. Skoog, Kansas City, Mo., (*Journal A. M. A.*, June 19, 1920), presented brain complications, one a cerebellar and the other a meningial involvement. The first patient made a complete recovery in a short period, indicating that few or no cerebellar neuronal elements were destroyed. The second patient was not so fortunate. It is reasonably certain that imbecility and possibly epilepsy will always be present.

WOMEN IN MEDICINE.*

CLARA F. PALMER, M. D.

MC ALESTER, OKLA.

It is with a great deal of hesitancy and misgiving that I read a paper and try to tell anything new or original in regard to the accomplishments of women in this profession.

In the early part of 1918, I was appointed chairman of the American women's hospitals for this district and a great deal of literature has been sent me telling of their great work during the recent war.

We have had our great women in various pursuits and volumes have been devoted to them, but in my reference books I find no name of woman pre-eminent in the healing art. While such surgeons and scientists as Jenner, Virchow, Lord Lister, and Robert Koch carry your memory back to the old college halls of your Alma Mater, I find the lone name of Elizabeth Blackwell, born in 1821, to be the first woman who ever obtained a medical diploma in the United States and that, too, after many years of difficulty before being admitted to the College of Geneva, New York, where she graduated in 1849 and founded a hospital in New York in 1854 for women and children. She died in 1910.

With our entry into the war in 1917, women physicians and surgeons all over the United States began to take definite steps to render national service for which they were trained and while other women were entering fields new to them, the physicians and surgeons were ready at once to render indispensable and vitally needed services not only at home but abroad.

The value of women physicians and surgeons has passed from speculation to certainty. In Europe almost before the United States had entered war, ten hospitals varying in capacity from one hundred to six hundred beds were fully staffed by women and the highest standard of work was maintained in surgery; general, orthopedic, and oral, and in the care of medical cases, singly and epidemic. The Scottish women's hospitals were founded in 1914. The unit was made ready and went to Belgium in ten days. They had the lowest death rate from typhoid of any army hospital in the country. Four Scottish women's hospitals were established in Serbia during the typhus epidemic and five thousand cases per week were treated in *one* of them.

In one hospital near Paris, when the wounded soldiers were brought in after a battle, women operated every hour for three days and nights consecutively. That soldiers like to be cared for by women physicians is shown by the fact that when they were wounded the second time, they requested to be sent back to the Scottish women's hospitals.

In a recent news letter from the women physicians in Serbia, a few are mentioned who have rendered invaluable service. Dr. Etta Gray, President of the Medical Women's National Association, is a woman of great physical strength and endurance and a high degree of medical and surgical skill; qualifications necessary for all medical women. She has the assistance of several capable women who have made a success of clinics, dispensaries, and infant care.

Dr. Alice Barlow Brown, of Chicago, a classmate of mine, sailed from New York, December 8th, 1919. She started the first dispensary circuit conducted by Americans in the war zone of France. By dawn of each morning her camionette (ambulance) was on the highway bearing relief to towns and villages which had been shelled until they looked more like the ruins of Pompeii than modern habitations. The executive committee have great confidence in Dr. Brown and her co-workers.

About a year ago eleven women physicians chosen from different parts of

the United States were selected for service with the American Red Cross in the Balkans. Dr. Dora E. Brown of Kansas City, Missouri, was sent to Montenegro and in her letter states that she has done over three hundred operations including almost everything in general and special surgery. There have been over sixty herniotomies, a number of laparotomies, appendicectomies, carcinoma, mastoid abscesses, tubercular lesions and gunshot wounds too numerous to mention.

Dr. Charlotte Fairbanks of Vermont reported over eight hundred surgical cases, which she performed while serving as head surgeon at the American Women's Hospital No. 1 at Luzancy, France, which was conducted in co-operation with the American Committee for devastated France.

Dr. Regina Keyes has charge of a flyless hospital at Monastir. Her only assistants are Dr. Wood and a nurse and in the dispensary averages three thousand sick persons per month.

America is fully abreast of her allies in well trained professional women. They are graduates from the same colleges as the men physicians and from those of equal standing, Johns Hopkins, Cornell, University of Michigan, and from practically all the co-educational medical colleges in the United States. Many have received college degrees before studying medicine and have pursued post-graduate studies at home and abroad. They are on the clinical and teaching staffs of such New York hospitals as the Post Graduate Polyclinic, Rockefeller Institute and Hospital, Vanderbilt Clinic of Roosevelt Hospital, the Eye and Ear Infirmary, and many other of the most prominent hospitals throughout the United States.

Women physicians are fellows and members of such national, special, and local medical and surgical associations as the American College of Surgeons, the American Academy of Medicine, New York Academy of Medicine, Brooklyn Pathological Society, American Society for Cancer Research, etc.

Our relief work in France is almost over, but by helping in the reconstruction work we are building a living memorial for the organized medical women of the United States which will manifest itself in the better health and well being of all those reached by the women physicians and surgeons.

ACUTE MIDDLE EAR INFECTIONS IN CHILDREN.

According to L. E. La Fetra, New York (*Journal A. M. A.*, May 1, 1920), the chief reliable sign of mastoid inflammation is sagging of the posterior superior quadrant of the drum with the adjacent wall of the canal. Tenderness above the tip on a line directly behind the meatus at the site of the mastoid emissary vein, and tenderness of the upper part of the mastoid in the region of the zygoma are very important if they can be elicited. Other suggestive signs are a profuse discharge or the sudden cessation of a profuse discharge. In little babies, and occasionally in older children, an edema over the mastoid process is important. Vacillations of temperature without the canal signs are not reliable, though if these temperature elevations are continued and unexplained by pneumonia, pyelitis or by gastro-intestinal disturbance, they must be regarded as pointing to mastoid involvement. If successive blood counts show an increase in the number of polymorphonuclear cells and in the total leukocyte counts, they are also valuable; but single blood counts are of little importance since the blood in children is susceptible to a polymorphonuclear and total leukocyte increase. The indications for the mastoid operation are a persistence of the signs mentioned, in spite of free drainage through the wide incision in the drum. The only method of cure is by posterior drainage through the mastoid bone, together with clearing out of all the cells and bony tissue that are infected. La Fetra pleads that careful routine examination of the ears be made in all cases in which fever is present. To the man who treats children the otoscope is far more necessary than the stethoscope.

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EDITORIAL

SEPTEMBER'S PROBLEMS.

Observing physicians, analyzing cause and effect long ago fell into the habit of appreciating problems brought to us by mobilization of hundreds of thousands of school children who bring to their fellow children myriad infections and seemingly the irreducible minimum of fatalities incident to communicable diseases. That these conditions of morbidity and mortality are yet easily subject to further and effective prevention and control is also fully appreciated by the thoughtful physician, sanitarian and hygienist and the intelligent, but minority portion of our citizens. It has also become almost the universal custom to regard dissemination of knowledge as to approved methods of control as the function of the greatest altruism on the part of the doctor; indeed the few who look upon these annual onslaughts of destruction in a selfish manner or with indifferent attitude are indeed very few, reflecting no credit upon his profession or glory to the people of which he is an ignoble part.

The problems present the same identical features each year. Those of us who carelessly maintain a state of unpreparedness in these matters are in like manner unprepared to cope with all others. Realization that the parent above all others, the health officer, teacher and physician, to obtain the maximum of benefit, must co-operate in intelligent manner, is fixed law. Perfection in action on the part of one, utter idleness on the part of anyone of the others wrecks the entire fabric of defense and offense, leaving loopholes for entrance and spread of disease, sometimes to appalling ends.

Speaking for the physician solely, it seems pertinent to note the recurrent futility of action, which practiced by some, renders all of us impotent. One of the commonest attitudes of really criminal tendencies is that of the physician who slowly appreciates the portent of his case, with equal slowness, advises isolation

and specific effective treatment, all too late to protect others or save his case from destruction by preventable, controllable means. The causes commonly met are:

Smallpox; wholly preventable, treatment almost ineffectual, usually of little importance, yet occasionally extremely virulent in one who contracted it from negligible infection in others. The same old silliness of useless quarantine practiced by our fathers is the order of the day. National unappreciation of its futility and impractical handling except by vaccination is a monument to our stupidity and inability to profit by past experience. Health officers fully understand that all quarantine should be abrogated, that vaccination be made easily available to those who will accept it, and to those who obstinately reject it no attention should be paid. Certainly most of us are tired of bearing the burden of ineffectual quarantine of the ignorant and prejudiced unvaccinated, while our families in safety rely upon that sure protection. It seems unfair to penalize those of us who are protected just to maintain unnecessary expense through generations of ingoramuses, and which seems to have no end in sight.

Diphtheria: School inspection, in good faith, does more to control this infection than any other means. After its origination the path of quick control is nearly always to be found in immediate prophylaxis to those exposed, and *sufficient* specific treatment of the case.

Scarlet fever: Often immediately fatal, sometimes so in after years by its complications, is our most formidable enemy. Unlike its neighbor, its wide range of course from mildness to fatal virulency sounds its difficulty of control. Here effective recognition, isolation, quarantine, intense symptomatic treatment is the only plan to adopt.

Measles, whooping-cough, a phalanx of lesser infections of the skin, eyes, throat infections lightly regarded, each are occasionally forerunners of fatality, all more or less incapacitating, many usherers of complications slowly mounting to fatal aftermath, must be regarded by those concerned and charged with responsibility, as matters of the greatest importance potentially. Despite our vaunted advances our body politic is still held down, made inefficient and helpless by the obstinacy of physician and parent; that phase of the problem appears to be hopeless, it also accounts for the despairing resolve often heard from good physicians to let the whole thing go bang. One of the phases of the matter also largely appreciated is that found in the practice of every means of intelligent control in one locality, all rendered useless by the indifference of the health officer and people in adjoining localities who neither see, hear or act.

OKLAHOMA SHOULD EMULATE ARKANSAS.

Poking kindly gibe and fun at our neighbor Arkansas is the national sport of the Nation. Perhaps it is somewhat justified from the conditions existing in the past, however few realize the rapid strides and healthy, clean accomplishments of our Eastern neighbor unless a visit enlightens us. Aside from the very respectable material productivity and material reduction of its vast natural resources; its important role in easily feeding its own people and annually sending immense quantities to other states; its slow, but very good system of road building, home building, educational advances, in fact progress in every line, we must not forget in our jocularly that its citizenship is highly tintured with what lately we have dubbed, "Americanism." This latter fact was recently demonstrated in the retirement of a stubborn United States Senator by more than 35,000 majority in the primary elections.

Of interest to the doctor, however, and to Oklahoma small towns without hospital facilities, and they number hundreds, your Secretary-Editor, worn to the bone by work, recently took advantage of short distance and attractive climatic conditions to visit one of the clean, small, delightful little towns of North-

western Arkansas, Siloam Springs. The first morning, noting a dark brick, red-tiled roofed, three-story building near the hotel, inquiry of the maid brought the information, "Oh, that's our hospital, it ain't much though." Well it was "much," much more than any one town on that line of railway could boast in some 150 miles of its course through Oklahoma. A visit disclosed the usual "hardup," complaining situation of the Superintendent, who remained unmollified after assurances that what she had was far superior to that of most of mine own people, that it was doing good, filling a necessity little appreciated, except by comparison with its absence.

The system making the hospital possible is within reach of practically every small town of Oklahoma, its erection calling for no more expenditure substantially than is already thrown away on wasteful rents and misdirected taxation. Briefly, the town, finding itself about to erect a small municipal building to house its modest fire apparatus, mayor, city clerk, water and light offices, possessed a physician of vision, who induced his people to allow them to add a third floor which was divided into small rooms, wards, operating room, etc. To be sure the sum total of its space amounts to very little, nevertheless it provides a clean place, where emergencies, otherwise often surely fatal by a few hours delay, may be treated with success. It also provides a few nurses, who, co-operating with the doctor, makes for better care of many sick people. Altogether it gives the little town something rarely encountered in any part of our country, and at the modest expense of four walls, windows and subdivisions.

If our Oklahoma towns would apply the present rental they annually dissipate upon poor quarters for the mayor, clerks, and other municipal offices, to a long time bonded indebtedness, the effect would be immediate relief of suffering, a higher grade of work from the physician and surgeon; a state as nearly practically perfect and productive of great good as could be from the simple course outlined. In that respect, as well as in many others, we may well "Follow our Leader."

IMPROVED SERVICE FOR OKLAHOMA'S UNFORTUNATES.

Recent press dispatches note the enormous valuation of various buildings and lands owned by Oklahoma devoted to the care of mental cases, the blind, deaf, orphans and others, and also to the efforts of Dr. A. R. Lewis, State Commissioner of Health, and others to procure needed treatment of our charges by specialists. Unfortunately, through the machinations of politicians, many of the institutions are badly located as to available medical and surgical care which through the misfortune of poor physical heritage they are more in need of than the citizen of average physical endowment. Without decrying the many splendid, alert physicians to be found everywhere in our smaller centers, it is admitted that the larger cities hold the most successful from the fact that they are given opportunity to care for a wide range of derangements not to be found except in rare isolated cases in the sparsely settled community.

The suggestion that a "Flying Squadron," or consulting staff, carefully selected, and whose duties it would be to make periodic visits to operate upon and otherwise advise treatment for the inmates, is one of possibilities and should be given earnest consideration. The writer recalls, that prior to the War, an adept operator aided by seven assistants operated upon more than sixty children of the Pryor Orphans' Home in a day, the results being immediate improvement of the individual, lessening the sick call thereafter, as well as removing a potent aid of tuberculosis, bronchial and systemic infections. The high incidence of infections due to adenoids and tonsillar infections in these children, warranted the procedure, no one was greatly discommoded, and the results were brilliant and by any other course unavailable. We believe this or some system based upon similar general outline may be originated with the end that these people will be recipients of vast physical improvement.

NO PHYSICAL TEST FOR SCHOOL CHILDREN.

"Parents are not forced to permit examination of their children by physicians before attendance at public schools," E. L. Fulton, assistant to the attorney general ruled. The superintendent of schools, Cherokee, Alfalfa county, became unduly perturbed over this vexing problem and straightway checked it to the attorney general's office, which rightly ruled that Oklahoma has no such law, no rule, even if the physicians of Alfalfa County in their zeal for unrequited labor offered to perform the services gratis, in the interests of humanity, common sense and the commonest modern acceptance of world-wide knowledge that such examinations do protect human life and prevent spread of infections incident to child life.

Those enthusiastic medicos of Alfalfa county, however, may view with pardonable pride, the accomplishments and perfections of the laws of Oklahoma which, while guarding the sacred constitutional rights of our itchy kids, look well indeed to the interests of our bovine and porcine population. No Tom Green county (Texas) ticky steer may with impunity tread the board walk of their railway siding, minus approved dip; no Louisiana razorback may nose his way into the sacred precincts of the body politic of our northwestern neighbor, but the "kids," well, that is a different matter. As one legislative member, who may be identified as to mentality by casual view of his ears, which to the ordinary observer brings the wonder if Darwinism may not sometimes be caught "descenting" backward, expressed his intelligent opposition to inspection of our school children with the argument, "it might scare the children." You gentlemen of Alfalfa county should attend to your own business. Why "scare" your neighbor's child by prying into his oral cavity simply to gratify your curiosity as to whether he harbors a little potential destruction in the way of decayed teeth or infected tonsils or scarlet fever and diphtheria? Hasn't he folks of his own to look after him? Did his forbears back to the grand day of the Great Charter, not get along without such interference? If you were really shrewd, as shrewd as your Christian Scientist-Chiropractic opponent of inspection charges you to be, you would capitalize your ulterior thoughts and motives as others do, you would hammer at the door of the legislature demanding inspection? No, no inspection, no quarantine, but free, unrestricted American passage of the land and ocean by every possible type of infectious disease. Then all would be well, every new onslaught would be grist to our mill. If any misguided person sought to take the bread from our mouths by limiting the output of our livelihood of new material, why just handle him as certain other organizations do, half a brick on the top of his head, a piece of gas pipe scientifically applied with our knowledge of anatomy would place us at a vantage point heretofore beyond our dreams.

PUBLIC HYGIENE AND THE LEAGUE OF NATIONS.

The Council of the League of Nations recently discussed the report of M. da Cunha, delegate from Brazil, on the formation of an international organization of hygiene as provided by the treaty of Versailles. The purpose of this organization is principally to advise the League of Nations in matters of hygiene; to communicate promptly recommendations designed to combat epidemics and diseases in general; to conclude international agreements bearing on hygiene and to revise existing treaties; to protect the workingman and to co-operate in this endeavor with the international labor organization and the Red Cross and to organize medical missions on the demand of the League of Nations. This constitutes, in fact, an amplification of the first Office international de l'hygiene publique, which was created by a conference held in Rome in 1907, and an adaptation of the latter organization to the League of Nations.

The new organization will be formed (1) of a general committee of survey composed of the delegates of all the states which adhered to the Rome conference in 1907, (2) of a permanent committee consisting only of delegates of countries

represented in the Council of the League of Nations, and (3) of a secretarial office. The permanent committee will consider all projects which will be submitted to the approval of the general committee and the latter will transmit the proposals to the respective governments who will have final decision in all matters. The expenses of this new organization will be borne by the general budget of the League of Nations.

Jour. A. M. A., Paris, 8-28-20.

URUGUAY AND THE UNITED STATES.

During the Great War, Uruguay stood staunchly with the United States, and her president, Senor Baltasar Brum, a brilliant young statesman, who is well known in diplomatic circles in Washington, and the able foreign minister made decisions which will be permanent additions to international law; in substance, first, that a republic fighting for her sovereign rights is not a belligerent and has the right of asylum and protection from all republics, and second that when the United States is forced into war to protect her rights she is protecting the rights of all republics, and all republics become parties to the conflict. Uruguay promptly followed the United States in declaring war on the Central Powers.

Wm. J. Mayo, Jour. A. M. A., 8-28-20.

PERSONAL AND GENERAL NEWS

- Dr. W. S. Ivy, Marlow, has moved to Duncan.
- Dr. Julian Field, Enid, is in Boston doing postgraduate work.
- Dr. A. C. Hirshfield, Oklahoma City, is visiting Colorado resorts.
- Dr. M. E. Stout, Oklahoma City, visited eastern clinics in August.
- Dr. J. Hutchings White, Muskogee, visited eastern points in August.
- Dr. R. F. Terrell, Stigler, visited Colorado and Wyoming points in August.
- Dr. W. A. Tolleson, Eufaula, suffered the loss of a Buick car in August by theft.
- Dr. Earnest Sullivan and family, Oklahoma City, spent their vacation in Chicago.
- Dr. and Mrs. D. S. Downey, Chickasha, spent several weeks in Branson, Missouri.
- Dr. and Mrs. W. E. Dixon, Oklahoma City, have returned from a visit to Colorado points.
- Dr. G. H. Cameron and family, Healdton, spent the month of August on the Great Lakes.
- Dr. C. E. Sexton, Stillwater, has been appointed physician for the Federal Vocational Board.
- Dr. W. H. Rutland has moved from Altus, Okla., to 55th St. and Moneta Ave., Los Angeles, Cal.
- Dr. F. E. Gastineau, Pawnee, has been appointed Superintendent of Health for Pawnee County.
- Dr. C. M. Fullenwider, Muskogee, has returned from six weeks motor and fishing trip to Montana points.
- Dr. C. H. Ball, Tulsa, recently initiated the Tulsa Kiwanis Club into some of the mysteries of the x-ray.
- Dr. G. E. Stanbro, Buffalo, N. Y., has located in Pawhuska and is associated with Dr. George O. Langworthy.
- Dr. G. L. Johnson and family, Pauls Valley, motored to Arkansas in August, hunting and fishing on their vacation.
- Dr. and Mrs. J. M. Workman, Woodward, have returned from California where they had been visiting for several months.
- Drs. Benton Lovelady and J. L. Melvin, Guthrie, have opened a general hospital for the care of medical and surgical cases.
- Dr. Sidney Hagood and family, Durant, spent the weeks of August at Siloam Springs, Ark., the old home of Dr. Hagood.
- Dr. Samuel J. Fryer, Muskogee, has been appointed Examiner for the Bureau War Risk Insurance, vice Dr. C. A. Thompson, resigned.
- Dr. W. M. Horine, Henryetta, spent July and August in the Rockies. He made the trip by automobile and was accompanied by his son.
- Dr. and Mrs. A. B. Leeds, Chickasha, accompanied by friends motored to Valley Ranch, New Mexico, in August on a hunting and fishing trip.

Mrs. J. Y. Scroggs, of Norman, and Miss Bess Ross, of Enid, have been appointed by Governor Robertson as members of the State Board of Nursing Examiners.

Dr. and Mrs. G. E. Goodwin, Ardmore, are visiting eastern points. During his absence Dr. Goodwin will travel to Hudson's Bay on a hunting and fishing trip.

Dr. Lee W. Cotton, Enid, was the unsuccessful candidate in the Democratic Primary for the State Senate. He was nominated in a hopelessly Republican District.

Dr. and Mrs. C. Garabedian, Tulsa, visited Chicago in August. Dr. Garabedian attending various clinics while Mrs. Garabedian visited in Minnesota and Michigan.

Muskogee's Associated Charities have converted a small outbuilding on the grounds into a fairly miniature hospital where minor operative work is rendered the inmates at the Day Nursery.

Dr. H. M. Stricklen, Tonkawa, is said to have punched \$90.00 worth of doctor's bill out of a slow debtor; at that he is ahead of the game for the press dispatch indicates the Court only charged him a Five Spot.

Dr. and Mrs. L. H. Murdoch, Okeene, are motoring to California and will visit western points for two months. Dr. Murdoch's work is in the hands of his son, Dr. R. E. Murdoch, Oklahoma City, for the time.

University Hospital, Oklahoma City, will make an attempt to secure sufficient radium for the institution's needs in treatment of indicated cases. It is estimated \$20,000.00 will be required to secure amount necessary for practical purposes.

Dr. H. A. Lile, Cherokee, celebrated the formal opening of the new addition to the Alfalfa County General Hospital early in August, tendering a banquet to a large number of visiting members of the profession from Oklahoma City, Alva and various other towns.

The Kentucky Historical Society, according to press dispatches, has located at Alva, in the possession of Mr. Arthur Noel, a famous portrait of Dr. Ephraim McDowell. It is said the portrait was painted in 1820 and that its discovery ends a search of many years.

Dr. Glenn Francisco, Enid, spent the month of June on the Pacific Coast, attending the International Kiwanis Club Convention at Portland, Oregon, the Shriners' Convention in that city and incidentally looked in on the Democratic Convention at San Francisco.

Dr. Hugh Scott, Surgeon, U. S. Public Health Service, is arranging for the opening of a hospital at Rainy Mountain. Buildings of the former Rainy Mountain Indian School will be converted for the use of tuberculous War Risk beneficiaries, according to press dispatches.

Dr. Claude Thompson, Muskogee, after serving for ten months as War Risk Examiner, tendered his resignation, effective on securing successor. Lack of time, inadequate pay, general misunderstanding of details of work by beaurocrats, and dissatisfaction with the boresome details and irritating trivialities hampering efficient care of ill and injured returned soldiers was the prompting cause.

Dr. George A. Waters, Pawnee, has been appointed Warden of the State Reformatory at Granite. The appointment of physicians to superintendency of similar state institutions should be encouraged. With the State providing adequate remuneration, the physician, if of professional and executive ability, is in better position to serve the State's charges than is any other professional or business man.

Oklahoma posts, American Legion, are urging establishment of a hospital in Oklahoma for Oklahoma's returned sick and injured soldiers. This step is based upon the clearest justice and right to these men, their relatives and the citizenship of the State which sent to war approximately 100,000 men, and at a preliminary cost of less than two dollars per capita while some of our patriotic eastern states calmly pocketed, in some instances, nearly twenty dollars per capita for similar service. Yes, indeed, we should have the care of our own people.

Okmulgee County Medical Society met in Okmulgee August 9th, Dr. W. B. Pigg, the poetic Secretary of the organization, flinging this to the winds in the official announcement: "The good old summer time is here, We have no rickeys, gin or beer, Just soda pop and lemon fizz, Is all the cold drink what they is." To what lowly state has our Okmulgee friend descended. "Obstetric Technique," by Dr. E. C. Myers, Okmulgee, was discussed by Dr. W. C. Mitchener, Okmulgee; "Salpingitis," Dr. Fred S. Watson, Okmulgee, discussed by Dr. Ira W. Robertson, Henryetta. "Tropical Diseases," by Dr. F. A. Howell, Okmulgee, discussed by Dr. C. M. Ming, Okmulgee.

The American Society for Control of Cancer announces that appropriation of \$225,000 for 24 grams of radium has been made a fact. Any citizen of the United States may avail himself gratuitously after October 15th of treatment, but preference will naturally be accorded citizens of New York. The first gram is now in the vaults at Buffalo, and was brought 2900 miles across the continent in the form of 125 tons of Colorado carnotite to the plant at Orange, N. J., where it was extracted. This is said to be the first purchase of radium by any state and marks a step of advancement in the treatment of cancer by this method, which is now admitted by authorities as the most efficient means yet attained.

The Medical Department, Oklahoma University, proudly issued a bulletin from the office of Dr. LeRoy Long, Dean, which embodies the following facts furnished the Department by Dr. J. M. Byrum, Secretary of the State Board of Medical Examiners: Every 1920 graduate passed with good grade, first honors being accorded Dr. Elizabeth Lehmer, who has received written congratulation from the Faculty (see July Personal and General). Twenty-eight applicants in all appeared for examination, with six failures. Of the twenty-two successfully passing, fifteen were graduates of Oklahoma University, our own Class A school.

DR. ERNEST PLEAS.

Dr. Ernest Pleas, for thirty years a practitioner in Indian Territory and Oklahoma, died in his home at Collinsville recently, at the age of 61, after three months' illness, from what is reported as Cancer of the Liver.

Dr. Pleas is survived by a wife and two children. He was one of Indian Territory's successful practitioners, a good citizen, he served his people and time well and goes to his reward with a good record from every standpoint.

The Third Annual Oklahoma State Public Health Conference will take place at Oklahoma City October 12-13, 1920. The conference is under the joint direction of the Oklahoma Tuberculosis Association and the State Department of Public Health. For information concerning program apply to either organization.

The American Child Hygiene Association meets in St. Louis, October 11-13. Dr. E. J. Goodwin, St. Louis, Secretary-Editor of the Missouri State Medical Association, furnishes the Journal proof of the proposed program, which is too lengthy for inclusion here, but of it may be said from the contents, a most instructive meeting will result. The expectant mother, the unmarried mother, nursing wards, dental defects, mental health of the child, standards of health work, publicity, heart diseases, economy and nutrition, tuberculosis, public health nurses, welfare clinics, boarding out vs. institutional care of infants, are some of the features to be read and discussed at the meeting by eminent American authorities on the subjects.

Dr. A. R. Lewis, State Commissioner of Health, bitterly complains in a communication to the Journal of the attitude or restrictions hampering proper care of Oklahoma's defectives with reference to the services of needed specialists, who, offering their high-class services gratuitously to our wards witnessed this ending to their very altruistic endeavors. Authorized by the State Board of Affairs to render such services, Dr. Lewis enlisted the voluntary aid of two specialists who visiting the school for the deaf at Sulphur examined and concluded that approximately 75 per cent of the inmates needed various correctional services of minor defects, which handicapped those already in a below par category. Securing permission almost unanimously from the parents and guardians that this needed work be done, he submitted estimate of a small per diem and actual expense necessary to reimburse the specialists to the State Auditor who found technical reasons for rejecting the expenditure on the ground that no specific appropriation existed for the purpose. At that time Dr. Lewis had in his sanitary inspection fund a surplus of some two or three thousand dollars, a part of which reverted for lack of expenditure to the general fund on June 30th. In the meantime the children may "go hang" simply because a technical hair-splitting view of legal intricacies prohibited their relief. Certainly no person of good sense would have ever raised objection to the trivial expense incurred in this proposal. Verily our politics makes us do strange things.

MISCELLANEOUS**TUBERCULOSIS.**

Ceremonies for the laying of the corner stone of the State Tuberculosis sanatorium at Clinton were held August 13 at the site of the building. In addition to a number of state officials, who went over for the occasion, there were present several hundred people from the surrounding community, and prominent professional and business men from throughout the state. William Jennings Bryan was the only speaker at the Rotary luncheon at which the visitors were guests of the Clinton Rotary club. He also made an impromptu talk in the afternoon at the corner stone ceremonies.

PUBLIC HEALTH CONFERENCE.

Extensive plans are being made for the State Public Health conference which will be held at Oklahoma City, October 12 and 13. The conference will be conducted under the joint auspices of the Oklahoma Tuberculosis association and the State Department of Health and will be the official annual meeting for these two organizations.

Because the problem of industrial health, or the relation of the health of the employee to the employer will be one of the chief topics of discussion, it is expected that many of the industrial leaders of the state will attend. There will also be present representatives from civic and commercial clubs.

While health is primarily a question for the doctor, the cost of sickness is coming to be recognized as an industrial problem—and, therefore, of interest to business men. Both program and entertainment will be of sufficient scope and variety to interest the medical profession, the business man and the general public, the committee announces.

INTERSTATE MEDICAL LICENSURE.

Resolution adopted by the House of Delegates of the Ohio State Medical Association, at its last annual meeting, held in Toledo, June 1, 2 and 3, 1920:

"Whereas, in our forty-eight states there are as many separate medical examining boards, and

"Whereas, licensed physicians in one state may not always practice in other commonwealths without vexatious examinations and expense, and

"Whereas, the government in time of war frequently sent physicians into army camps in other states, and therefore disregarded state boundaries, and

"Whereas, there is practically homogeneity in the anatomical and psychological makeup of the people in the various states, and

"Whereas, the same may be said of the physicians throughout the land.

"Therefore, Be It Resolved, that it is the opinion of the House of Delegates that the right to practice in one state should be extended to include the right to practice medicine in any part of the United States.

"Be It Further Resolved that a copy of this resolution be sent to the proper officials of all medical societies, and to national and quasi-national medical associations, and that the American Medical Association be especially urged to perfect a plan by which interstate medical practice be made as easy as interstate commerce."

THE THERAPY OF ADRENALIN.

The important position of Adrenalin in the materia medica is undoubtedly attributable to the vast amount of scientific work that has been done in connection with the product, to say nothing of the marvelous array of clinical facts that have been accumulated and now constitute the basis of our knowledge of its therapy.

This thought is suggested by the appearance in our advertising section, this month, of a unique announcement from Parke, Davis & Co., entitled "Adrenalin in Medicine," which every medical practitioner should read. It deals with the physiological action of the medullary suprarenal principle and reflects a clear light upon a subject concerning which much misinformation persists, even in medical circles. This, we understand, is the first of a series of short essays that will have to do with the scientific aspect of the subject rather than its commercial features. Others will include discussions of "The Treatment of Asthma"; "The Treatment of Shock and Collapse"; "The Treatment of Hemorrhage"; "Adrenalin in Combination with Local Anesthetics", "Adrenalin in Organo-Therapy."

These topics appeal strongly to the progressive physician who seeks to be well informed. New facts are being constantly developed in the domain of endocrinology; and as this series of concise "talks" will cover the field pretty thoroughly, in so far as Adrenalin is concerned, it will be well worth while to review them.

COUNCIL ON PHARMACY AND CHEMISTRY
AMERICAN MEDICAL ASSOCIATION

(The following articles produced by advertisers in this Journal have been accepted for inclusion with New and Non-Official Remedies by the Council on Pharmacy and Chemistry.)

ARTICLES ACCEPTED.

During July the following articles of our advertisers have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies:

Armour & Co.: Tablets, Anterior Pituitary, 5 grains; Tablets, Ovarian Substance, 5 grains.

Hynson, Westcott & Dunning: Lutein, Sterile Solution of Ovarian Residue—H. W. D.; Tablets, Ovarian Residue—H. W. D.

NEW AND NONOFFICIAL REMEDIES.

(Abridged)

Whole Ovary—H. W. D. The ovarian gland of the cow, including the corpora lutea, freed from extraneous matter and dried in vacuo. For actions and uses, see general article on Ovary (New and Nonofficial Remedies, 1920, p. 201). Whole Ovary—H. W. D. is sold in the form of 5 grain tablets only. Hynson, Westcott & Dunning, Baltimore.

Benzyl Benzoate—Abbott. A brand of benzyl benzoate (see New and Nonofficial Remedies, 1920, p. 49), complying with the N. N. R. standards. It is also supplied in the form of Elixir Benzyl Benzoate—Abbott and Benzyl Benzoate Tablets—Abbott 2 grains. Abbott Laboratories, Chicago.

Ampules Ven-Iron Cacodylate. Each ampule contains 0.03 gm. (half grain) of ferric cacodylate (see New and Nonofficial Remedies, 1920, p. 44). Intra Products Co., Denver, Colo.

Ampules Ven-Iron Cacodylate. Each ampule contains 0.03 gm. (half grain) of ferric cacodylate (see New and Nonofficial Remedies, 1920, p. 44) in physiological solution of sodium chloride. Intra Products Co., Denver, Colo. (Jour. A. M. A., July 3, 1920, p. 35).

PROPAGANDA FOR REFORM.

Acriflavine G H and Proflavine G H. Acriflavine and proflavine have been admitted to New and Nonofficial Remedies. However, the products sold by the Heyl Laboratories as "Acriflavine G H" and "Proflavine G. H" have not been accepted for New and Nonofficial Remedies because (1) their quality did not conform to the Council's standards and (2) in the advertising issued for these drugs the manufacturer failed to give the unfavorable as well as the favorable clinical reports that have been published (Jour. A. M. A., July 3, 1920, p. 51).

Antidote for Snake Poison. No Anti-Venom for snake poison has been accepted for New and Nonofficial Remedies. Experiments looking toward the production of anti-venom for snake poisoning seems to have met with some success, but the use of these products in therapy is still in the experimental stage. In general it has been shown that an anti-venom prepared for one species is not always effective when used against the venom of another species (Jour. A. M. A., July 3, 1920, p. 51).

Products of the American Organotherapy Co. Dr. Alfred A. Lowenthal has announced a "Post Graduate Course of Lectures and Clinics" to the physicians of Chicago, Denver, St. Louis, Columbus, etc.—and incidentally brings to the attention of the medical world the alleged virtues of the products of the American Organotherapy Company. A few years ago, the American Animal Therapy Company of Chicago put out such products as Lymphoid Compound (Lowenthal), Ova Mammoid (Lowenthal), and Prostoid (Lowenthal), and these products were exploited to the public (Jour. A. M. A., July 3, 1920, p. 49).

Echitone and Echinacea. A circular entitled "Skin Lesions of Unknown and Uncertain Origin," sent out by Strong, Cobb & Co., is devoted to the exploitation of "Echitone," stated to contain echinacea, blue flag and pansy. Several years ago, the Council on Pharmacy and Chemistry examined "Echitone" and rejected the product because unwarranted therapeutic claims were made for it and for other reasons. The drug echinacea has been claimed to be a "specific" for rattlesnake bites, syphilis, typhoid, malaria, diphtheria and hydrophobia. It has also been credited by enthusiasts with curative effect in tuberculosis, tetanus and exophthalmic goiter, and with the power of retarding the development of cancer. The Council on Pharmacy and Chemistry examined the claims made for this drug and reported that there was no reliable evidence in substantiation of the claims made for it. Echinacea is one of the many vegetable drugs introduced by the eclectics without a rational basis for their use (Jour. A. M. A., July 17, 1920, p. 193).

Na Versus K. Advantages of sodium over potassium salts: (1) **Rational therapeutics.** Sodium compounds are as efficient as, in many instances better than, the corresponding potassium compounds. Potassium is more toxic. (2) **National aid.** Accustom yourself to use sodium, an abundant natural product of the United States. The home of potassium is Germany, which, to its own commercial gain, popularized potassium drugs. (3) **Price.** Sodium salts are cheaper. Potassium is, relatively speaking, a foreign substance in the body. Potassium and sodium salts are prescribed mainly for the effects of the radicle they carry. It is illogical, therefore, to administer potassium acetate or potassium bromid when sodium acetate or sodium bromid can more readily be given. In spite of the smaller demand, sodium salts are on the whole cheaper than potassium salts and, should the medical profession prescribe the sodium more generally, all of those that might be used in medicine would be less expensive than the corresponding potassium salt (Jour. A. M. A., July 17, 1920, p. 192).

Boracetine. Boracetine (F. E. Barr & Co., Chicago) in 1919 was heralded as "The Guardian of Health." It was claimed to be "an *all-around* antiseptic, especially good for pyhorrea, sore gums, sore throat, etc., excellent for cuts, bruises, insect bites, skin eruptions and, in fact, any condition when an efficient healing agent and germ destroyer is needed." It was also recommended to "get rid of that 'dark brown taste'." Indirectly Boracetine was also claimed to be a preventive of consumption, scarlet fever, diphtheria, etc. From the analysis made in the A. M. A. Chemical Laboratory it appears that Boracetine is nothing more wonderful than *Liquor Antisepticus*, N. F., with a dash of formaldehyd. The more "patent medicines" are analyzed the more obvious becomes the commercial wisdom of the nostrum interests to fighting formula disclosure. Secrecy and mystery are the "back bone" of the "patent medicine" industry (Jour. A. M. A., July 17, 1920, p. 192).

Chaulmoogra Oil in Leprosy. The results obtained with the treatment of lepers at the leprosy investigation station in Kalihi, Hawaii, with the ethyl esters from chaulmoogra oil have been encouraging. It will require, however, some time to determine whether a real cure for leprosy has been discovered (Jour. A. M. A., July 24, 1920, p. 263).

Chemotherapy of Tuberculosis and the "Cerium Salt Treatment." Koch studied the effects of many chemical substances, including a gold cyanid compound, on the growth of the tubercle bacillus in cultures, and concluded that all these substances remained completely inactive when tested upon the tuberculous animal. Compounds related to guaiacol and creosote came to have a widespread reputation as tuberculocidal agents without anyone's taking the trouble to ascertain definitely whether they really had any particular capacity to injure tubercle bacilli in the test tube, the tuberculous animal or

the consumptive patient, although the German manufacturing chemists provided innumerable proprietary derivatives of these drugs. Some time before the war, a "complex lecithin-copper compound" of unannounced composition was put forward in Germany. Another copper cure came from Tokyo, "cyanocuprol" of Koga. Other copper compounds, such as copper arspenamine, also were brought out. But none of these copper compounds have settled the tuberculosis problem. Recently, newspapers have given publicity to the treatment of tuberculosis by the so-called cerium earth salts in France. It appears that a few observations have been made on the inhibitory action on the growth of tubercle bacilli of salts of cerium and some other rare earth metals. The inhibitory action was less than that observed in the past for these chemical substances, and there is no record of experiments to determine their effect on experimental tuberculosis. Possible cerium earth salts help the tuberculosis; the evidence so far presented, however, is nothing to get excited about (Jour. A. M. A., July 24, 1920, p. 246).

More Misbranded Drug Products and Nostrums. The following products have been the subject of prosecution by the federal authorities under the Food and Drugs Act: Seelye's Wasa-Tusa, Dr. Seelye's Compound Extract of Sarsaparilla, Seelye's Laxa-Tena, Seelye's Cough and La Grippe Remedy and Seelye's Fluorilla Compound (A. B. Seelye Medical Company) were misbranded because the therapeutic claims were unwarranted. Aspirin Tablets (Verandah Chemical Company) were misbranded because they contained no acetylsalicylic acid (Aspirin). Dr. Grove's Anodyne for Infants (Smith, Klein & French Company) was misbranded because the therapeutic claims were unwarranted and because the carton failed to contain a statement of the quantity and proportion of morphine and alcohol contained therein. Cacapon Healing Water (Capon Springs Company) was adulterated in that it consisted in part of a filthy, decomposed and putrid animal and vegetable substance and misbranded because the curative claims were unwarranted. Seawright Water (Seawright Magnesian Lithia Spring Company) was adulterated in that it consisted in part of a filthy and decomposed vegetable substance (Jour. A. M. A., July 24, 1920, p. 261).

Benzyl Benzoate. The chemical properties of benzyl benzoate have been known for years. Its therapeutic properties as an antispasmodic have been known only a short time. Before this new addition to our materia medica can be given thorough clinical trial, it is necessary that the products be of a quality sufficiently pure for medicinal use. For the physician's protection, as well as for an aid to the manufacturer, the A. M. A. Chemical Laboratory, at the request of the Council on Pharmacy and Chemistry has elaborated purity standards. It has also examined the market supply and found that, on the whole, the nonproprietary medicinal brands are of a satisfactory grade for clinical use (Jour. A. M. A., July 31, 1920, p. 335).

A Shotgun Mixture. It is stated that the following prescription is used with success in "intestinal cases of a medical type": zinc sulphocarbolate, 0.5; bismuth subnitrate, 15.0; bismuth betanaphtholate, 8.0; camphorated tincture of opium, 15.0; syrup of acacia, 30.0; elixir lactopeptine, to make 130.0. In this, the chief active ingredients are bismuth subnitrate and camphorated tincture of opium. The zinc sulphocarbolate is superfluous. The action of the bismuth betanaphtholate probably does not differ from that of bismuth subnitrate, and cinnamon water or simple elixir might as well be substituted for elixir lactopeptine (Jour. A. M. A., July 31, 1920, p. 335).

TWO GOOD LOCATIONS for general practitioner—
\$4000.00 or \$5000.00 business. Near surgical center. Address
"C. C.," care State Medical Journal. 6-20

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Delegates to A. M. A.—1921, Dr. L. S. Willour; 1921-1922, Dr. L. J. Moorman.

Meeting place, McAlester, May, 1921.

COUNCILOR DISTRICTS.

District No. 1. Texas, Beaver, Cimarron, Harper, Ellis, Woods, Woodward, Alfalfa, Major, Grant, Garfield, Noble and Kay. G. A. Boyle, Enid.

District No. 2. Dewey, Roger Mills, Custer, Beckham, Washita, Greer, Kiowa, Harmon, Jackson and Tillman. L. A. Mitchell, Frederick.

District No. 3. Blaine, Kingfisher, Canadian, Logan, Payne, Lincoln, Oklahoma, Cleveland, Pottawatomie, Seminole and McClain. M. E. Stout, Oklahoma City.

District No. 4. Caddo, Grady, Comanche, Cotton, Stephens, Jefferson, Garvin, Murray, Carter, and Love. J. T. Slover, Sulphur.

District No. 5. Pontotoc, Coal, Johnston, Atoka, Marshall, Bryan, Choctaw, Pushmataha and McCurtain. J. L. Austin, Durant.

District No. 6. Okfuskee, Hughes, Pittsburg, Latimer, LeFlore, Haskell and Sequoyah. L. C. Kuyrkendall, McAlester.

District No. 7. Pawnee, Osage, Washington, Tulsa, Creek, Nowata and Rogers. C. H. Ball, Tulsa.

District No. 8. Craig, Ottawa, Delaware, Mayes, Wagoner, Cherokee, Adair, Okmulgee, Muskogee and McIntosh. C. W. Heitzman, Muskogee.

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Oklahoma reciprocates with Georgia, Kentucky, Mississippi, Nevada, North Carolina, Wisconsin, Kansas, Arkansas, Virginia, West Virginia, Nebraska, New Mexico, Tennessee, Iowa, Ohio, California, Colorado, Indiana, Missouri, New Jersey, Vermont, Texas, Michigan.

Meetings held on first Tuesday of January, April, July and October, Oklahoma City. Address all communications to the Secretary, Dr. J. M. Byrum, Shawnee.

THE JOURNAL

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DIAGNOSIS AND TREATMENT OF CEREBROSPINAL LUES.*

REX BOLEND, M. D.

OKLAHOMA CITY, OKLAHOMA

It will not be the object of this paper to give a detailed discussion of the various forms of Central Nervous Syphilis, nor will any attempt be made to dazzle by detailing the different phases, such as Tabes, Paresis, Syphilitic-Meningitis, Erb's, Spinal-Syphilis, Neuro-Syphilis or Psychoses of different types, etc.

It is rather going to be our effort to simplify and attempt to rob Central Nervous Syphilis of some of the mysterious or vagueness, the "too late now" or "end of the row" feeling we often have when confronted with this condition.

Every case of syphilis which has reached the co-called secondary stage must be considered a potential C. N. S. candidate and so held until the spinal fluid is withdrawn and gives negative cytologic reactions.

We have learned that the *treponema pallida* many times makes its way to the brain and spinal cord very early; it has been demonstrated that there are several strains of *treponema pallida*, one of which seems to have special affinity for nerve tissue and apparently makes a "bee line" for brain substance; two other conditions must also be taken into consideration in the rapidity with which infection reaches the C. N. S.: (1) The resistance of the patient; (2) The virulence of the organisms.

One can readily see how a patient with a remarkably lowered resistance, and particularly virulent infection, may develop C. N. S. infection very quickly; it has been our lot to see three cases of distinct meningeal irritation with positive Wassermann, cell count increased and globulin plus three weeks after secondaries made their appearance; it is not at all rare to find positive spinal fluid Wassermann in the fourth or fifth month after infection.

Could I have chosen my subject I would have made it "A Plea for Early Diagnosis and Treatment," because therein lies the key to the successful treatment of this condition. In order to make a diagnosis as soon as possible we must divide it into two classes:

- (1) Those in which there is rather acute meningeal symptoms (Syphilitic meningitis).
- (2) Those which have a slower, more insidious development, ordinarily termed Central Nervous System Syphilis.

*Read in Section on Genito-Urinary and Skin Diseases and Radiology, Annual Meeting, Oklahoma City, May, 1920.

(1) SIGNS AND SYMPTOMS OF SYPHILITIC MENINGITIS.

Subjectively. Intense headaches which are not relieved by ordinary measures is the most predominating symptom, sometimes nausea and vomiting.

Objectively. The signs of increased intra-cranial pressure, sometimes slight, Kernig's sign, often disturbances of the motor neurons, usually the lower neurons. Marked nervous irritability elicited most easily by the markedly exaggerated reflexes. Many others might be named, but these are sufficient to warrant a lumbar puncture.

(2) The latter and most neglected type, and because there is no recent history, no particular pain, the patient does not come to you and say, "Doctor, I have had syphilis and fear it has become central." He may have come complaining of anything from typical symptoms of gastric ulcer to tabes dorsalis. Only last week I called a consultation with an internist on a patient whom I knew had syphilis, because she gave such typical signs and symptoms of gastric ulcer, only to have the internist tell me her trouble was due to C. N. S. syphilis. Subjectively, the patient may complain of any symptom known to the category of human ailments, but one may rely on objective findings and you may with careful questioning elicit few or many of the following: headaches, especially at night, dizzy spells, diplopia, rheumatoid pains in back and legs—more or less difficulty walking in the dark, nervousness, fatigue—often complaining of being worn out at the end of the day's work, nervous irritability and often sleeplessness. Now we do not presume that should the patient have error of refraction and develop headaches he has lues, or if he has a clogged liver and has dizzy spells he has syphilis, or, rheumatoid pains; with several infected teeth. These things must all be excluded as matter of routine.

From the objective signs we strengthen our convictions very much and here, as before, there is no one or two symptoms that are pathognomonic but the preponderance of evidence on which we must rely.

The first and most constant sign is the irregular pupils, lopsided, look like a dime baseball that had been knocked around many times; they are unequal, sluggish in reaction to light and accommodation, a symptom pointed out by Graves, nearly always present but as yet no particular significance; that is, the peculiar varnished appearance of sclera with marked tortuous conjunctival vessels, arteries hard, P 2 plus, A 2 plus; bladder symptoms at this time may be expected, viz., too frequent urination with poor control or the opposite difficulty in starting, disturbance of coordination easily elicited by Romberg's sign.

Reflexes: The superficial are the first to disappear, in order named:

(1) Cremasteric, (2) Abdominal, (3) Conjunctival.

The knee jerk, ulnar, and Achilles are as a rule first exaggerated, then diminished, then absent. Definite areas of sensory disturbance reacting to the point of a pin; the first to show, ulnar border of forearms, outer surfaces of the knees—one need not go further into the physical examination than this because the laboratory is available and in my opinion can give us the most definite results on the spinal fluid of any of its works on syphilis.

LABORATORY FINDINGS.

As stated above, since every syphilitic is potentially a Central Nervous Syphilis subject we would urge that every case have lumbar punctures and Wassermann, cell count, globulin, and Lange's colloidal gold test made. It is not for me to discuss in this paper the relative value of the different tests, but I want to call attention to two facts, viz., that during the meningeal irritative stage and for a period afterward, the cell count and globulin are perhaps the most reliable. Later the gold chloride is by far the more delicate and reliable test for central nervous system lues, as well as a very marked aid in differentiating between the different types.

TREATMENT.

It goes without saying that this condition once determined demands active and

strenuous treatment, according to the extent of the affection of the central nervous system.

For some time after the advent of salvarsan, we were under the impression that we at last had a remedy which would penetrate all structures, but as time went on and central nervous system symptoms repeatedly occurred during and after thorough courses of salvarsan, we felt the need of something else or at least a better way to administer salvarsan.

Very soon there appeared in the Journals several methods by different investigators over the country. It is not our intention to go into a long discussion on the virtues of these different methods but to give you the results of those used by myself and from which we can draw definite conclusions.

Drs. Swift and Ellis were among the first to give us a method, the technic of which is familiar to all. After using this for some time we decided there was no use making a heterogeneous substance out of a homogeneous one; hence we modified the original to this extent:

Between 35 and 40 minutes after the intravenous administration of salvarsan, draw off about 40 c.c. of blood, which is immediately centrifuged in sterile tubes at very high speed and from which we obtain 15 to 20 c.c. of serum. The spinal puncture is then made and from 10 to 40 c.c. of spinal fluid withdrawn according to the pressure and condition of the patient. The undiluted serum is then injected into the dural cavity. We found that with this modification we apparently got all the good results without very much reaction. Very seldom did we have to use an opiate, to relieve pain, after treatment.

Results were apparent, every case yielding more or less to the treatment, but still there was the objection that we did not know how much salvarsan the patient was receiving in the spinal canal, so we appealed to a chemist who made quantitative estimates of the amount of metallic arsenic in the blood serum, showing that the serum contained different amounts, varying from 1-500 to 1-250 grain in one c.c. variation due to body weight of the individual. Thus we were able to a certain extent to regulate the dose.

The injection of metallic mercury into the dural cavity has come into quite general use, the most common form being the bi-chloride put up in normal horse serum. This has proven very efficacious, especially in those cases suffering from the direct invasion of the spirocheta pallida. Will cite two or three cases for demonstration:

Patient No. 40 came to the hospital suffering from complete paraplegia. Wassermann 1 plus; spinal fluid Wassermann, 3 plus; cell count 40 per cu. m.m.; nonne doubtful; leucocyte count 11000.

Patient was only able to get three doses of the mercurialized serum but at that time had gained control of both sphincters and was able to walk with the aid of a cane. Sensation in both legs and ability to move the feet and toes become possible after the first injection.

Case No. 3 Demonstrates the value of early *intradural treatment*.

Young man, age 22, contracted syphilis February, 1917. Three weeks after secondaries took treatment, was given four injections of salvarsan, and left the city; was away three months. Suddenly he began having headaches, which were worse at night; this continued for 14 days, during which time the patient came home and was treated continuously for migraine, neuralgia, etc., the only relief being from morphin; at this time patient came into our hands with unmistakable signs of intradural pressure. Deep reflexes were exaggerated. Superficial reflexes were diminished. Pupils irregular and uneven. Patient sent to hospital for lumbar puncture, with the following laboratory findings: Blood Wassermann 2 plus; spinal fluid Wassermann 3 plus; cell count 50; nonne-Appelt negative, increased protein content; leucocyte count 9000.

Patient was given mercurialized serum every seven days, until three injections

were given. Twenty-four hours after first injection patient's headache had greatly diminished and at the end of 48 hours had absolutely gone, but returned slightly about the sixth day; seventh day another injection of mercurialized serum given, very slight reaction and no recurrence of headache, nor has there been any clinical evidence since this time. The patient was given salvarsan intravenously at this stage and repeated every week until six doses had been given, and blood Wassermann at this time negative. Spinal fluid Wassermann 2 plus; cell count 3 per m.m.; nonne negative; leucocyte count 7500.

After third injection spinal treatments were given every three weeks until six were given, at which time all treatment was discontinued for a prolonged period. Clinically the patient is well; the laboratory signs are all negative except the Wassermann, which still gives a doubtful reaction.

Case 60. Typical tabes. Patient has been suffering from so-called rheumatism for past 16 years, has been to all springs and bathing places that his finances would permit, had all the classical symptoms of tabes. Dr. McGregor, of Mangum, made the positive diagnoses and turgor puncture which gave all the positive cytological reaction. The case was referred to me for treatment and he was given a mixed salvarsanized and mercurialized-serum treatment. Intradurally, the patient has had five treatments and claims to be cured, which of course he is not, but so far as subjective symptoms are concerned, he has none. No pains of any kind and is working from 12 to 14 hours a day.

It is not to be inferred that all our cases have such brilliant results, but as stated before, every case shows more or less improvement which is in direct ratio to the type and time of the case treated.

Bichloride of mercury mixed with the spinal fluid is very good but followed by very severe reactions and the patient does not seem to tolerate repeated doses very well.

CONCLUSIONS.

We have found that after a series of our 300 cases most dependable and gratifying results can be obtained by the intradural administration of mercurialized or salvarsanized serum.

That mercurialized serum is the equal, if not superior, in conditions wherein there is cell destruction due to the *treponema pallidum*.

That salvarsanized serum is superior in cases apparently suffering from the toxins of *spirocheta pallidum*.

The best results are obtained in cases selected according to their clinical types.

The earlier intradural treatments are begun, the more gratifying the results.

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VENEREAL DISEASE DISPENSARY.

An account of the organization of the venereal disease dispensary, including a report of the work done at the Illinois Social Hygiene Dispensary during and since the war, is given in the *Journal A. M. A.*, Nov. 29, 1919, by B. C. Corbus, Chicago. In the first year of its activities, the Illinois Social Hygiene League carried on an extensive educational campaign, which is still continued, including lectures, pictures, pamphlets and other literature. The work has been carried on among discharged soldiers and civilians, and there are now eleven specially trained physicians on the league's staff, besides the superintendent and clerks. A laboratory was recently established with one technician in charge. Frequent meetings of the medical staff are held to discuss treatment, etc., and a standardized technic has been adopted. Social workers have been employed, and various other methods evolved are given in detail. The dispensary occupies a two-story building in the north central section of the Chicago business district. There are fourteen weekly clinics held for both men and women, at hours arranged suitably for working people—some for charity patients and some for those who pay, the fees being regulated by the financial status of the patient. It is seen that all are efficiently treated. There is always room for such work in large cities, and it should fulfil a useful purpose.

PATHOLOGY OF SPINAL FLUID IN CEREBROSPINAL SYPHILIS.*

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The normal cerebrospinal fluid has a slightly alkaline reaction, and contains a little over one per cent solid matter. It reduces Fehling's solution due to the presence of glucose. The protein which is found in traces in the normal fluid consists of globulin and albumose.

The small lymphocytes, which are the chief cellular constituents, number about eight cells per cubic millimeter. An increase in these cells is observed whenever irritation of the meninges is present. It is, therefore, found in all meningitides and diseases of the meninges that are primarily or secondarily involved in luetic processes such as tabes, cerebrospinal syphilis, and general paresis.

The Wassermann reaction is by far the most constant and delicate single test for syphilis, and whenever found positive, anti-syphilitic treatment should be given until the reaction becomes negative and remains so for a sufficiently long period of time. It has been proved that a single negative reaction is not ample evidence that a cure has been effected. It is, therefore, necessary that successive examinations be made during a period of two years and off and on during the remainder of life. The serum should be tested at least every six weeks during treatment and every six months or a year after treatment has been discontinued, for several years. The occurrence of a positive Wassermann reaction after treatment has been discontinued is an indication for its resumption.

It is only logical to consider cerebrospinal syphilis, tabes, and general paresis as originally one disease, each exhibiting peculiarities of distribution of the organism. The contention that these diseases cannot be distinguished from one another in their incipency is a fact which must be admitted. But in watching the progress of these diseases we note dissimilarities. The cell count in cerebrospinal lues is, as a rule, high in the untreated case. The cell count in general paresis is under 100—usually 60 cells per cubic millimeter. The Wassermann reaction in cerebrospinal lues is not always positive while in general paresis the Wassermann reaction remains positive. The characteristic feature of general paresis is a marked persistence of all serologic abnormalities. No matter how vigorous the treatment, the cell count rarely diminishes.

The purely cerebral distribution of the syphilitic process may show an acute or a chronic display of symptoms and a serology corresponding to the form of tissue change, meningitic, gummatous, or endarteritic.

The serology is greatly affected by the ease with which the spinal fluid receives impressions from the cerebral fluid. If there are obstacles which prevent proper interchange, some cerebral luetic process may escape the serologist. In a majority of cases, however, the meningitic form gives sufficient distinctive features to suggest some pathologic change. The gummatous form of cerebral syphilis affects the spinal fluid according to the depth of the infection in the brain tissue. The superficially located gumma gives serologic changes secondarily only by irritating the meninges, so we, really, are dealing with a mixed form of the disease, gummatous and meningitic. If the process is deeply situated, the study of the cerebral fluid will yield little evidence. The purely endarteritic form of cerebral lues, like spinal or cerebrospinal lues, rarely gives a pleocytosis, although occasionally a positive Wassermann reaction may be obtained in the fluid. The Wassermann reaction varies as does the globulin content.

As has been said, not infrequently is it hard to differentiate between cerebral lues and general paresis. Here the serologic differentiation is at times of great value. Even then the serology may so closely resemble that of general paresis that

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in order to establish a correct diagnosis it would be necessary to subject the patient to a course of treatments and watch the serologic changes. If the "Wassermann Fast" condition is obtained, we may feel sure we are dealing with general paresis. On the other hand, if the Wassermann reaction becomes negative, we may assume that the case is one of cerebrospinal lues.

The serologic evidence may not go hand in hand with the clinical manifestations but many months and in some cases years may elapse before clinical corroboration may be had.

In any case where there is a doubt as to the presence of general paresis we can clinch the diagnosis, if

1. A positive Wassermann reaction persists.
2. The cell count remains low, usually about 60.
3. The gold curve remains characteristic.
4. The globulin content remains excessive.

If the case appears to be cerebral lues, these conditions as a rule are found:

1. The Wassermann reaction will become negative comparatively easy after treatment.

2. The cell count which has been over 100 will be reduced.
3. From the beginning there will be no characteristic gold curve.
4. The globulin content, if present, will clear up.

The same characteristics are found in spinal syphilis to a great extent. The globulin may, at times, be present in great amounts. The cell count is low, but in the meningitic form the count may reach into the hundreds. The Wassermann reaction, as in the cerebral form, is positive in about 50% of the spinal fluids and about 75% of the serum. These figures apply only to the untreated cases.

All these factors constitute a valuable chapter in the clinical interpretation of syphilitic nervous diseases.

One other point I should like to bring before you is the use of the provocatory stimulation. In many cases of latent syphilis the administration of anti-syphilitic treatment, such as mercury or salvarsan, will convert a negative reacting serum to a positive one. In cases where lues is known to have been present or strongly suspected, and the Wassermann reaction is doubtful or negative, the administration of these drugs for a period of ten days or two weeks may show a positive reaction and thus show a latent syphilis requiring further treatment.

DISCUSSION.

Dr. C. B. Taylor, Oklahoma City: Mr. Chairman: Dr. Bolend very well said that every case of secondary syphilis should be considered potential nervous syphilis. If we are going to accept the theory that the organism of syphilis is distributed through the body by means of the blood stream, we must accept the theory that some of these organisms are carried to the central nervous system which is supplied by the same blood stream as the skin. So, if we have a case of secondary syphilis, we must have a central nervousness even though we get no manifestation of it. I think it is also true since the skin clears of the secondary manifestations, either with treatment or without treatment, that we must concede that the central nervous system will be freed of its infection, sometimes with and sometimes without treatment. A certain percentage of these cases, however, will not clear up. Those are the cases that give us later on our central nervous manifestations. A case of syphilis, in my opinion, that has gone or advanced as far as the secondary stage should never be discharged until examination has been made of the spinal fluid regardless of whether or not the patient has manifested any symptoms of central nervous disorder, and the findings from the laboratory on the vital fluids are of very great importance. We should get the centrostatic changes before we come to the subjective germs.

Quite often cases of central nervous syphilis can be proved up by the routine laboratory examination. When we find in the spinal fluid a cell count of over seven, a positive globulin, a negative or positive Wassermann, and the typical gold curve, we know we have central nervous syphilis that may in later years give trouble. We have no sure way of saying that it will. These cases may live on and die of old age without having any manifestations, but we are not justified in letting these cases go without treatment, and the treatment, Dr. Bolend has outlined. There is very little to add to the treatment as he has outlined it. Personally, I think I get as good results in these central nervous cases by creating a negative pressure in the spinal canal after the patient has taken a natural dose of arsenauro as when the arsenical serum is injected directly into the canal, or the salvarsan straight mixed with the spinal fluid, or in cases with the commercialized serum. I have a number of cases on my record sheets that show a rapid improvement of symptoms and a rapid change in the laboratory findings from simply doing the spinal puncture after a series of salvarsan preparation and after the administration of a large dose of arsenobenzol; cases of tabs that have improved readily and cases of atrophied ————lessened from the beginning of the stage of atrophy simply by the ———— of the fluid when the blood stream is loaded with the arsenic. Just how many of these treatments should be given is questionable. You will find the spinal fluid after the series of treatments to be practically normal; allowing an interval of three or four months to elapse and then doing another spinal puncture and withdrawing the fluid you will find the condition is returning while the patient has some subjective germs. I think, as Miss Campbell stated in her paper, these patients should have repeated examinations of the spinal fluids made perhaps for an interval of a year or six months for the balance of their lives.

Dr. Wann Langston, Oklahoma City: Mr. President, I would just like to say a word or two about laboratory findings. Because of the fact that the cerebrospinal fluid reacts very delicately, often very easily and often in a good many conditions very characteristically, it offers much of diagnostic importance in their interpretation. A great many tests may be performed on the spinal fluid, but four stand out over all others. With the possible exception of the colloidal gold, each has a distinct value if taken and properly interpreted one in the light of the other and in the light of the clinical manifestations of the disease.

The first I have mentioned and the one that I have found least dependable, because of the fact that we do not know what the normal is in the cell count. Frequently we say that the normal cell count is five; sometimes we say that anything below ten cells would be normal. In my observation I believe that one and a half is more nearly correct because of the fact that if we take anything below ten as normal we find our cell count negative in perhaps fifty per cent of cases.

The second that I shall mention is the Wassermann. The Wassermann test on the spinal fluid, when positive, is the most dependable of any of the tests. When negative, like all other laboratory results, it cannot be depended upon. The Wassermann is positive in perhaps sixty per cent of the cerebrospinal syphilitic conditions. It is not positive so far as I know in any other syphilitic condition.

The third is the protein contents of the spinal fluid. The percentage has been given as one hundred in cases of paresis, with other cases following closely. I think that is too high a percentage, and unless we are very careful in the interpretation we will be misled. If we use the modification of Mooney's test, which is conservative, in perhaps sixty or sixty-five per cent of these cases of cerebrospinal syphilis, whether paresis or otherwise, the test will be positive.

Eight years ago Laye announced the colloidal gold reaction and in this short time the literature has become very voluminous on these tests, and I believe that is the most important of all the tests of the spinal fluid. The technique, when you have the proper solution prepared, is so simple it can be carried out and the action and reaction is easily read and the different conditions in which you get the positive result are so sharply marked from each other that it is by far the

best test in arriving at a differential diagnosis that we have. It is positive, according to various authorities, in from fifteen to twenty-five per cent more than any other test that I have mentioned. The curb in paresis is definite; the curb in tabes and the other cerebrospinal syphilitic conditions is not so definite, but it always occurs within a certain zone, usually complicated by other conditions. This test is made so easily, much more easily perhaps than any of the other positive reactions mentioned, that it is a special advantage in that it enables us to find the first possible indications of cerebrospinal involvement; it gives us another advantage; it gives us from time to time an index of the patient's condition which will enable us to institute treatment at a time when proper treatment yields the best results. For these reasons I think it proper that the spinal puncture should be done and the colloidal gold test performed in every case of cerebro-tertiary syphilis.

Dr. Curtis R. Day, Oklahoma City: I think that Dr. Bolend has presented the best subject of any of us who have had papers in this section. It is the one that has excited the greatest interest of the profession for several years.

Along about the time that Dr. Erlich presented the profession in Germany with 606, it was my good fortune to be on the staff of the Hospital for the Insane at Norman. Shortly after the men of this state began the use of neosalvarsan, or salvarsan, there was a marked increase in the number of cases of paresis that came to that institution. They became so numerous that Dr. Griffin, the superintendent of that institution, wrote to the superintendents of various hospitals for the insane over the United States and invariably got the same report; they were having a marked increase in the number of cases of paresis in their institutions at that time. I believe that there was a reason for this, and I believe it was because treatment was instituted along clinical evidences as we usually find them, and as these were cleared up and no effort was made relative to the treatment of the cerebrospinal syphilis. It was all directed toward the one phase of the disease, and none at all was directed toward the treatment of syphilis of the central nervous system, as we are doing today.

Another very interesting thing at the present time is the difference in opinion among men who are doing an immense amount of work of this character in the various institutions in the United States. A short time ago we wrote to the men who had charge of the mental and nervous sections and had charge of the syphilitic sections in a number of the different institutions in the United States, asking two questions; one of them was, What results are you receiving from treatment of the central nervous system by the spinal puncture method? Are you using that to the exclusion of any other method? The answers we received from these men are of great interest, the majority of them saying that they are getting no better results from intraspinal treatment than they are getting from intravenous treatment. Some of them go so far as to say they consider it criminal negligence if intraspinal treatment is not used. So we find that these men in the United States who are doing this work—men of authority—differ widely in their views at the present time. Where doctors disagree, folks are free, so that some of us can stand on our own evidence and argue it from our own viewpoints.

Regarding the recovery or the apparent recovery in cases of marked syphilis of the central nervous system, a few years ago a merchant from a nearby town came or was brought to Oklahoma City, suffering from a marked case of paresis. Two or three days after he arrived, he became violently insane and immediately was transferred to the hospital for the insane at Norman. The gold curb was made and was positive for paresis. He was placed in that institution; had to be put under a retaining sheet; received no treatment whatsoever—absolutely no treatment of any kind. In due time this man recovered from this attack of paresis, returned to his home and transacted business, the same as he had been doing years before, only to return to the institution in the course of four or five months and promptly died from paresis. So we may have these cases that appear to recover, but in due time they die.

Dr. W. J. Wallace, Oklahoma City: Mr. Chairman, this is a most interesting

subject. I wish to compliment both Miss Campbell and Dr. Bolend on their papers. In this, as in other cases, prophylaxis should be instituted. We have involvement of the central nervous system in the very early stage, as mentioned by Dr. Bolend. I have seen cases somewhat earlier than he said. Even before that time, why we had certain nervous manifestations. So in the treating of the early stages, it should be pushed. Intensive treatment should be given from the first. These cases should be kept under treatment for a number of years—for two or three years, and an examination made from time to time. But following this intensive treatment, the spinal puncture should by all means be made in every case. It will not hurt your patient to do that and you will find according to some tests that we have made that almost fifty per cent will show an involvement of the spinal system, and then if you have a showing in this region you can give the combined treatment as outlined.

In the tertiary disease, when we have developed a showing of tertiary disease and the beginning paresis, and the other conditions that these cases show, they can quickly be given a negative Wassermann that amounts to practically nothing because maybe it is syphilis with its lesions of the brain or some other part, and the treatment should be centered on that condition in that particular region.

In these cases I simply give them salvarsan immediately; they all get potassium iodid until they are completely saturated; they get mercury, which is necessary; they get the intraspinal medication, which does not hurt them and undoubtedly can benefit them, and it should be given in every case and followed up from time to time depending upon the condition of the patient. Dr. Bolend makes it about seven days. Sometimes two or three weeks as a rule depending upon how they react until we get a negative spinal fluid and a negative interspinal pressure and a negative cell count, and then, if by that time the patient has been saturated sufficiently with the iodides we will institute some treatment with salvarsan and mercurialized serum given intraspinally as Dr. Bolend told you, which is a modification of the Swift and Ellis method. We began that several years ago. Dr. Bolend is the first man on record to our knowledge that made the modification from the Swift and Ellis method in that method as he outlined, and until only recently—I think the report came out in March in some of the text books or some journal outlining that method. But he began it while we were together. I was associated with him but had nothing to do with it. He begun and worked out that method of treatment which I think is undoubtedly superior in every way to the Swift and Ellis method, and should be given along with your intraspinal and your combined treatment. But the intraspinal treatment is better and will do your patient no harm, but you must follow it up from time to time.

Dr. J. Hoy Sanford, Muskogee: I wish to add a few things; to ask a few things. It is a pity that we haven't yet gotten standardized on the treatment of syphilis. Some are giving intraspinous; some have discontinued it; some are giving it intravenously and withdrawing the spinal fluid immediately afterward. Some are not even doing that. Now, the question comes up, haven't we put mercury and iodid aside sooner than we should have? Another question is—I believe we will all concede this though; when there is nerve destruction: I don't believe any of those treatments will do any good. Then, the question is: How are you going to determine, if you are giving intraspinous treatment or if you are giving intravenous treatment and withdrawing the spinal fluid, that this is beneficial to the patient, even if it helped the neurological centers—what have you accomplished? Take a man with tabes; it attacks a man and the spinal fluid is all positive. What good chance has the fellow got? Just to hear it said in the discussion of some man that he gets better; that he is walking around. What have you done for him? You have his blood examined and it is practically the same. Where do we stand? It looks like, with all the men in the country, that things would become more or less standardized. Mayos have discontinued intraspinous treatment. Others have taken it up recently. Some advocate the withdrawal of the spinal fluid immediately afterward, and others don't do that, and base the whole thing on

the blood test. Salvarsan's greatest feature is in the primary syphilis, made by the dark field, and pushing the treatment right off of the bat, and of course, following it up with spinal examinations. I believe that is the value of salvarsan today—in primary syphilis. It is very valuable in secondary syphilis, but you must support it with mercury and plenty of it, and in tertiary syphilis the mercury and iodides are preferable. I believe, everything taken into consideration, all three together seem to be the ideal form. The only thing I can't get straight in my mind is with cerebrospinal syphilis, with nerve destruction, can you help that? On the other hand, with involvement and some nerve destruction, can you do as much to it with intensive treatment with mercury, iodides and salvarsan as you can with intraspinal treatments? Now, I am asking this for information. I have seen cases that had withdrawal of spinal fluid, and all of them do vary a little bit. Some of them have improved and some of them have not improved at all; you examine them then and you find the spinal fluid just the same. My belief is where there is neurologic involvement if you give him a treatment backed up with mercury and iodid and push the treatment, that you will do him as much good as you would with the other treatment, but if there is nerve destruction, though, none of them will do any good.

Dr. W. J. Wallace, Oklahoma City: Some five years ago a doctor in this state went to Mayo's for treatment. He had certain symptoms of central nervous syphilis. They made the spinal puncture. He was permitted to get up—a spinal puncture—and mercurialized serum and bichloride was injected—the man was permitted to get up and walk about three blocks to his boarding house. Shortly after reaching his boarding house, and with no instructions to go to bed, he developed a stroke of apoplexy, or I believe it was acute meningitis, and he was unconscious for about two weeks; the family were wired to come, his condition being so serious, but after a due course of time and rest he improved and was able to leave. Before leaving, however, they said to him, "Don't you ever take it again; you have a peculiar idiosyncrasy; it is dangerous; it will kill you and under no circumstances ever take the intraspinal treatment." In time he called on us and we told him that we would be willing to risk it; that he undoubtedly needed intraspinal treatment; that from the intravenous route he would not get the effect of the medicine at the place that it was needed in sufficient quantity. We prepared for the treatment with his consent, sent him to the hospital, we made our spinal puncture; gave the treatment intraspinally, the patient sent back to his room, instructed not to raise his head, not to get up for at least forty-eight hours; with absolutely no other reaction than the headache, he recovered nicely, returned home, and three weeks following that he took the treatment until four or five were given, much to the improvement of the patient with absolutely no bad effects whatever.

Dr. J. Hoy Sanford, Muskogee: I was not bringing out the bad effects of the treatment. I concede, I don't know whether it is particularly harmful or not. I would like to ask you at the time that you saw this individual what were his symptoms neurologically; I am not speaking of the laboratory; did the man present symptoms of involvement without nerve destruction or with nerve destruction?

Dr. Wallace: He had what we construed to be evidently some gummatous condition of the brain which responded to the treatment.

Dr. Sanford: How were his reflexes?

Dr. Wallace: He had all the characteristic symptoms, but the most pronounced that of involvement of the brain.

Dr. Sanford: Doctor, before we had salvarsan we had a lot of gummatous syphilis. I recall seeing a good many that under heavy iodides and mercury did very well. The question is, are they well, and is this man well? I am not against—don't misunderstand me—I am not against intraspinal treatment. I am trying to get information.

Dr. Wallace: The man is not well and never will be well, but he was treated with mercury.

Dr. Sanford: Could he have been treated by salvarsan intravenously and with heavy iodid and mercury?

Dr. Wallace: He had the iodid and mercury and he is still taking it.

Dr. Sanford: Could he have been treated in that way in your opinion?

Dr. Wallace: I think so.

Dr. A. M. Marshall, Chandler: In giving this intraspinal puncture my patients have never suffered very much inconvenience unless I made a little bobble. If I fell down, I think that I got a little bit of this bichloride of mercury into some of the tissues that caused some trouble to the patient when I went into it the first time, but after that I got the fluid without trouble and they suffered very little inconvenience and I decided it was the technique, if it caused any discomfort, rather than the treatment itself.

Dr. C. B. Taylor, Oklahoma City: In answer to Dr. Sanford's question, do we get any definite results where we have nerve destruction, of course, we don't regenerate any nerves any more than we grow a fresh one after it is cut off, but I do think we stop further destruction. I think that is a point we can all see. These cases of central nervous syphilis with nerve destruction that have continued to grow worse rapidly under intensive intravenous treatment combined with potassium iodid and mercury, we see those cases with their severe nervous symptoms rapidly getting worse—we see those cases arrested in three or four days time under intraspinal treatment. Even though we do no more than arrest the progress of that condition we have done a wonderful lot of good in my estimation.

Dr. Bolend, closing: I want to thank the gentlemen for the interesting discussion of my paper. It is true we are finding more paresis in the insane asylums; finding more paresis everywhere now; finding more paresis after we got salvarsan than before; but just say it is true, we are finding more of everything else. The more we know about a condition and the earlier we can diagnose a condition the more of it we will see. It is true, and it may be that it develops something like infected teeth and tonsils when the pendulum is over so far now that we are laying everything to infected teeth, gall-stones and the prostate. In the past four or five years the pendulum has been away up on syphilis and all phases of treatment of the central nervous system. I think that is perhaps a reason why the superintendents of the different insane asylums are finding more paresis is that they are diagnosing it earlier.

Somebody asked what results are you having from using this spinal fluid and this spinal treatment. I tried to make it plain that my paper was a plea a plea for the early diagnosis and treatment of central nervous syphilis. We are not talking about general paresis or advanced cases of locomotor ataxia. But as a matter of fact I have seen cases that I think were unquestionably general paresis and other well advanced cases of brain syphilis and locomotor ataxia—and only the advanced cases failed to respond. About fifty per cent of them. We never tell a patient, you are going to get well of locomotor ataxia. I say, I think we can stop the progress of your disease and keep you from getting worse. Now, some of them have gotten somewhat better or a little better; some responded nicely. I can show you cases that have responded miraculously; some of them slowly; some of them don't make much progress, but we are able in ninety-eight per cent of the cases of tabes, I think, to stop pain and to keep the disease from progressing. If you can do that, it is worth while.

For the past ten years neosalvarsan has been given just about as hot and heavy as the doctors were able to pile it, and the cases of tabes and general paresis have gone ahead and developed. Is it going to take us ten years more

to know whether or not the intraspinal treatment is going to be of lasting and beneficial result, whether it is going to cut down general paresis or tabes?

Somebody asked me if the results are any better than they were with the ordinary intensive treatment. All we can say to that is at the present time in the intensive treatment the doctors use the mercury as fast as they know how to give it and I think from the initiation they have pushed it as hard as they can along with the iodides; then they finally got to injecting it into the muscles. There are ways and ways of pushing, but the doctors have kept the system pretty well saturated where they have the co-operation of the patient. Still a large amount of paresis and tabes have developed. I want to get off of the subject of paresis and tabes. It is not the subject of my paper, but it has been brought out. It is going to take a few more successful and well directed intensive treatments and about ten years time before we can get the beneficial results and before Dr. Sanford's question can be answered.

On the proposition of doing the spinal puncture. It should be done immediately after or as soon after the injection of a large dose of salvarsan and mercury intravenously and is the most logical thing I know. I haven't any suggestion to make on it only in one or two cases I have tried with Dr. Wallace to find some evidences of something in the spinal canal. We didn't do any real work on it. In one or two cases we tried to find in one day or two days or maybe a week later some evidences of arsenic or mercury in the spinal canal, which we didn't. There are a thousand places for error, but it has occurred to me pretty much like this; why take the whole fire department to a fire; send the chemical wagon to put out the fire. You have your treatment into the spinal canal and the work has progressed to where these drugs can be given with impunity; there is not any very severe reaction if it is not too powerful and it can be done with only the loss of forty or fifty hours time and I believe that the reaction from the ordinary lumbar puncture is just about as severe, especially where you withdraw lots of spinal fluid, and for my part I am discontinuing that and talking against withdrawing large amounts of spinal fluid.

It is hard to get a sufficient number of cases in a short space of time to demonstrate the different facts clearly on the differential symptomatology so as to answer the questions that have been asked this afternoon. If anybody happened to have seen us in the University hospital the other day—there were only two cases, but it demonstrates thoroughly the conditions asked about today. Both cases have been under constant observation for four weeks; both cases have had mercury as fast as they could hold it; they have had potassium iodid as fast as they could be given it; one has been given thirty-eight drops, and the other forty drops three times a day; each has had a dose of salvarsan weekly. We were able to show these cases. The lumbar puncture was made two weeks ago and we had cytologic finding, yesterday we repeated the procedure. They are better now. I don't know now what the final reading was but it started out as typical a curb as it was originally and I don't know whether they will want us to go four weeks or four months or four years, but I am sure of one change.

Dr. Cecil: The final readings were approximately the same during the whole time?

Dr. Bolend: That is the final reading. Now, it might be that four weeks more would make a wonderful change. The man had the lumbar puncture early. Of course, that is not after each treatment by any means.

In regard to the frequency of the treatment, that was brought out in one discussion. It was only in case of acute meningitis with marked symptoms and headaches, etc., where we give this treatment so fast. I don't want anyone going away thinking as a routine we give mercury and arsenic into the spinal canal every week. Usually it runs from twenty-five to forty days in every case of early syphilis of any kind; if tabes, or anything else, about twenty-five to thirty days,

and in this case cited the man had acute meningitis and marked symptoms which disappeared. There were no ill effects from the mercurialized serum.

A question was asked about the size of the dose; in regard to the size of the dose of mercury or salvarsan into the spinal canal, it depends on your patient and on his resistance and how your patient progresses. If he progresses nicely to a certain point and doesn't do well further on, it is possible you are giving him either too much medication or too little medication. If he is progressing nicely and is doing fine except he does not go further, then you can assume that you are not giving him quite enough medication. In commerce only two sizes are put up, containing about one twenty-fifth of a grain of bichloride of mercury. It is hard to gauge the amount of arsenic you are putting into the spinal canal. You could give a man too much arsenic. If you give a big, fat man with lots of blood the serum, it will not contain as much of the arsenic as if you were giving the salvarsanized serum to a man of my size. So, the thing that has to be done is reinforcement; that is, reinforcing the man with a small quantity of the salvarsan added to his already made salvarsanized serum and the reports state that that is done without any ill effect. However, in a few cases infinitesimal amounts of arsenic directly into the spinal canal give rise to serious results. But by using this neo it won't kill a patient. With the salvarsanized serum you may add to as high as a twentieth grain of arsenic to his already salvarsanized serum—I am not positive about the amounts. They are marked. You can do the same way in making your own mercurialized serum and adding to the bichloride the serum made from the blood of your patient.

You speak about the physical signs—the high cell count. I am coming to the conclusion that perhaps a phenomena may sometimes develop and give us two kinds of cells in the spinal fluid; maybe a large cell that has some pathologic action different from the mere phagocytes found in the blood. If that is the case, it merely shows an increase of the phagocytes in the blood because the white cells are attempting to do the work they were intended to do. So I don't know that it worries me to see an increased cell count if all the other symptoms are abating. Will mercury reach the spinal fluid? I think what I have said answers that part of it as far as I know. And with the blood negative and the spinal fluid positive, is it better to give neo or mercury? That brings up the old, old question again as to which is the better remedy in syphilis, whether it is brain syphilis or systemic syphilis. Most of us have been in the army. I would like to make it like this. So far as the treatment of syphilis is concerned, in regard to the mercury, salvarsan and potassium iodid, I would like to call the salvarsan the heavy artillery, the mercury the infantry, and the iodid the signal corps and the engineers. You can't win a war with artillery and you also know that no infantry in the present day can win a war, and you can't get anywhere without your signal corps and your engineers. I think it is just as absurd to try to treat syphilis without mercury as it is to try to win a war without infantry; I think it is just as absurd to try to treat syphilis without salvarsan of some sort as it is to try to win a war without artillery and so with the iodides. Such a patient as won't yield to injections; such cases as won't yield to internal mercury, often will yield promptly to intraspinal injections. These things are all supposed to be taken into consideration. I don't feel that we should waste our time in arguing these idiosyncrasies.

I have said all that I have to say to you, but there is one point I wish to bring out in regard to Dr. Sanford's question; when do you know that a patient has the syphilis, what in the end is the result. From a simple standpoint Dr. Dr. Sanford's remarks are woefully and lamentably true. To a large per cent of them we can say you will live as long and get along as well and your family will be as good as if you never had had the syphilis. But there is a percentage that do resist all treatment.

On the other hand there are some well known authorities who think that it is criminal to try to reduce the blood Wassermann or the spinal

fluid Wassermann with intensive treatment, or attempt to do it. Engman, of Saint Louis, Pussey, of Chicago, or Graves, of Saint Louis, wouldn't any more attempt to intensify the treatment than to do any other absurd thing. They would consider it absurd. Now, we can laugh at these fellows, but there is truth in what they say. Their contention is this: if you can reduce your patient's Wassermann to negative and cure him with your treatment in that way, all right; you are lucky; so is your patient; but to do it at the expense of his kidneys, his heart and his brain; in other words, which are you going to do, cut off ten years of his life here or cut it off there; which end of the road are you going to cut it off. They think that you are doing your patient untold harm by giving your patient such intensive treatment. In other words, it is the same old story. You have got to keep the resistance of your patient up. Where you tear down his resistance—anything that is going to tear down his kidneys, lungs, stomach or spleen is wrong. I think most everybody will agree that if you can reduce the patient's subjective symptoms, make him comfortable and help him to be a useful citizen that you have accomplished a great deal. Now, as far as I can see I believe that that is the extent of what you do and I believe that that is doing a great deal. If you do reduce the subjective symptoms and make him comfortable and a useful citizen you have done more than has ever been done before, and you are keeping the insane asylum from filling up and are helping society in general.

Now, the other question is, in cases of syphilitic meningitis, is the intensive treatment just as good? I don't know. I haven't had enough cases to attempt to do it both ways to know. I can't answer that question.

Dr. Sanford: I didn't ask that question of what good did you accomplish by such methods as intraspinal as compared with purely intravenous injections of mercury and serum. I asked the question, Were there any better? I believe it is a great thing. I listened to it because that means a whole lot. I didn't ask it from that standpoint, Doctor; I just asked, did you accomplish more by intraspinal puncture and withdrawal of the spinal fluid following than you did the other way, just as a matter of information. I believe Dr. Wallace misunderstood me. I was asking for information on that case of yours, Doctor—not criticism—I wanted to know, because I do know I have been trying to settle my mind about the standardization of the treatment of syphilis, and I can't do it, and I was asking for information.

SPECIFIC NATURE OF HEMOLYTIC STREPTOCOCCUS OF SCARLET FEVER.

Studies of the specificity of the hemolytic streptococcus in scarlet fever, especially in regard to opsonification, since agglutination of streptococci is uncertain, are reported by Ruth Tunnicliff, Chicago (*Journal A. M. A.*, May 15, 1920). Hemolytic streptococci, obtained from various sources were used. Of the hemolytic streptococci isolated from the throat and the complicating lesions of early cases of scarlet fever, all gave marked phagocytosis with the immune sheep serum except two mannite fermenters, the point of opsonic extinction being from 1:30 to 1:1,500, 1:150 being the point at which phagocytosis ceased for the majority of the strains. None of the hemolytic streptococci isolated from the throat late in scarlet fever, except in instances noted, and none from sources other than scarlet fever, were opsonized by the immune sheep serum in dilutions higher than by normal serum; and none of these cultures were agglutinated by either normal or immune serum. Hemolytic streptococci obtained from the throats of nine patients during convalescence from scarlet fever, one during the second, the others during the third and fourth weeks, were not agglutinated by the immune serum and not opsonized in higher dilutions than with normal serum. The results so far indicate that the hemolytic streptococci isolated from the throat at the onset of the attack of scarlet fever are immunologically different from most of those obtained during convalescence, and that some of the hemolytic streptococci in complicating lesions may differ immunologically from the streptococci in the acute stage of scarlet fever. These results also suggest that immune sheep serum may be helpful in diagnosing suspected cases of scarlet fever and in determining the length of quarantine for patients with purulent discharges. Absorption experiments indicate clearly that the hemolytic streptococci that prevail in the throat in the acute stages of scarlet fever form a group immunologically closely related and apparently peculiar for scarlet fever. Possibly the serum produced with this scarlatinal streptococcus group may prove of use in the diagnosis of scarlet fever, and eventually, perhaps, in determining the length of infectivity.

OBSTRUCTIONS AT THE BLADDER NECK.*

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I have chosen as the topic for discussion, certainly the most important one in urology and indeed one of no small significance to most of you as general practitioners of medicine. Since such a goodly proportion of male individuals beyond middle life are afflicted with prostatic involvements (and this has been estimated at about 30%) and since about 50% of these seek relief because of symptoms of such obstruction, it naturally offers itself as a problem of general interest. I dare say that as the public becomes cognizant of the fact that aberrations of urinary function are not natural consequences of age to which they must become reconciled, but are representative of definite physical changes which are usually remediable, this percentage will grow appreciably higher; and the whole problem therefore reverts to you as practitioners, to educate the public along these lines in order that they may be guarded against disastrous consequences of late obstruction, and oftentimes protected from major surgery. It is for this reason that I wish to bring this subject before you, and I trust that I may be pardoned if I am rather elementary in the description of the progress of the pathological changes and their resultant symptomatology.

I shall assume that most of you are familiar with many of the changes around the bladder neck consequent upon some of the more common pathologic abnormalities, but let us refresh ourselves with some of the most typical findings and symptoms. Let us divide the obstructions at the bladder neck into two main classes; the mechanical and the neurological. The great bulk of mechanical obstructions result from changes in the prostate itself, either adenoma, carcinoma, sclerosis, or calculus. Other rarer obstructive conditions are papilloma, or carcinoma of the bladder, obstructing the orifice with either villi or clots, bladder stone, diverticula, cysts, urethral polyps, etc. The second group, the neurological, has as its most important exponent, although numerous other diseases of the central nervous system may be productive of the same changes.

As you know, the prostate is primarily a reproductive gland, situated around the neck of the bladder between two important muscles, the external and internal sphincter, which have to do with urinary control. It is composed primarily of five gland groups, the anterior, two laterals, a median and a posterior. With increasing age the anterior lobe is replaced by fibrous tissue and forms what is known as the anterior commissure of the prostate, and only occasionally contains gland elements. The two lateral groups of glands later form the lateral prostatic lobes on either side of the urethra. The median group of glands produces the so-called median lobe, situated between the ejaculatory ducts and the floor of the urethra. The posterior lobe caps the two laterals and is beneath the ejaculatory ducts, next to the rectum. Aside from these gland elements which in later life are productive of mechanical changes around the internal orifice of the bladder, there are other gland groups within the internal sphincter and under the vesical trigone. These are submucous glands which may in later life bear an important significance to changes around the orifice.

As has been previously stated, about 30% of individuals past middle life and some individuals even earlier, suffer from pathological processes originating in these gland elements, the most frequent involvement being a proliferative process forming what is commonly termed prostatic adenoma or hypertrophy; the next most frequent being malignancy, this comprising about 20% of all enlargements; and the

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third in order of frequency being the sclerotic changes either in the prostate or suburethral glands due to inflammatory processes. Whether the bladder neck is involved in one or another of these pathological changes, the mechanical result back of the obstructions is practically the same, that is, obstruction to the urinary outflow with resulting back pressure upon the bladder and upper urinary tract. The chief factor is the interference with the sphincteric mechanism of the bladder.

As the obstruction proceeds, whether it be a large hypertrophy or a small tight sclerosis, there is at first a call upon the bladder musculature to compensate for this increasing resistance; as a consequence the bladder wall becomes thickened, the muscle bundles hypertrophy, forming what is commonly known as trabeculation, which in turn induces a distortion of the orifice and an abnormality of the bladder contour. As the obstruction increases, the bladder wall being the point of least resistance may be finally forced beyond its capacity and undergoes broken compensation. With this there is a thinning of the bladder wall, dilatation, enfeebling of the detrusor musculature with the gradual development of an increased residual urine. Because of this last condition infection is likely to ensue, stone formation and inflammatory processes are quite common and pouchings and abnormalities of the bladder wall are frequent sequelae. But these changes in the bladder itself are not the important ones in vesical obstruction. With the increasing intravesical pressure, the kidneys are called upon to empty themselves against an abnormal resistance. This is soon productive of dilatation of the ureters and kidney pelves with a subsequent hydroureter and hydronephrosis and in the presence of infection, pyelonephritis and pyelonephrosis. These obstructive changes in the kidney are the serious changes in vesical neck obstruction, and those which offer the real danger to life, those with which you must be thoroughly acquainted.

SYMPTOMATOLOGY.

The symptoms produced by these pathological changes may be classified as local and general. Usually the first symptom that such individuals have is *frequency of urination*, particularly nocturnal. It may be well established as a working basis that an individual past middle life who has to get up at night once or twice is beginning his prostatism and it is here that you must exercise your best influence so that later changes may be avoided. The symptoms of frequency which are at first those of irritation are soon followed by *difficulty* and *hesitancy*. These symptoms are usually progressive and are then aggravated by the increasing residual urine, so that the patient at this point begins frequent voidings because he does not empty his bladder. As this goes on, the most serious local clinical symptom of prostatic obstruction is likely to occur, namely, *incontinence of urine*. This is the second clinical sign to which I wish to call your attention. The impression seems to be prevalent that incontinence is usually the result of irritation, when really it is almost universally secondary to a lack of sensation. I wish you to understand that a bladder rarely leaks unless it is full to overflowing and that we seldom meet with an incontinence except of the paradoxical overflowing type. It means that when patients are in this condition their ureters and kidney pelves are dilated with the bladder and that a low grade uremia has set in.

In my series of 485 cases of prostatic obstruction which I have studied a fair percentage of the patients consulted us with such incontinence. Because of the fact that patients have been taught that increasing frequency of urination is natural, we rarely get them early unless they are fortunate enough to have some complication in the bladder which will protect them against these late involvements. Of these cystitis and calculus, both of which produce pain and suffering, are the most frequent accompanists of early obstruction, and serve as alarm signals to the patient which may bring him to an early diagnosis. *Hematuria* is equally frequent in benign and malignant growths. *Retention* of urine, either intermittent or permanent, is self-evident.

There are usually no constitutional symptoms in early obstruction unless there be infection. But in the insidious, gradually increasing obstruction, with

incontinence there are two important symptoms to which you must be alert—the cerebral and gastro-intestinal, which occur as manifestations of uremia. Early morning nausea and vomiting in an elderly man who has never previously suffered from stomach disorders is highly suggestive of obstructive uremia, although many of our cases have been treated for pyloric stenosis and cancer. The cerebral indications which are usually running mates of the gastro-intestinal disorders are drowsiness, headaches, and occasionally mental wanderings. These two groups of symptoms must always bring to your mind an apprehension of uremia. Chills and fever frequently occur and are almost invariably the result of kidney involvement due to back pressure from obstruction.

Other common symptoms are the reflected pains, backaches, sciaticas, pains in the perineum and hip. These are less frequent in benign obstructions but are often the earliest symptoms of malignancy or central nervous system disease. Indeed cancer of the prostate and seminal vesicles frequently has as its only symptom of importance pain in back or hip. I wish to impress upon you the significance in the elderly patient of this almost pathognomonic aching pain in the hip joint. Diseases of the central nervous system commonly have bladder disturbances as their initial symptoms. In 500 cases of the disease of the central nervous system which one of my associates, Dr. Greditzer, and I studied and reported last year at the American Medical Association, over 40% consulted the urological clinic first, not realizing that there was any general nerve disturbance. These urinary symptoms are often identical with those due to mechanical obstruction but can be easily differentiated by methods which we will discuss under diagnosis.

DIAGNOSIS.

Urology has developed in the past fifteen years into one of the most exact branches of medicine and the trained specialist owing to the facilities he has at his command is seldom at a loss in making an exact diagnosis. An exact diagnosis is absolutely essential in order that the best results may be obtained. From you as general practitioners of medicine such diagnosis cannot be expected, this is for the special field of urology. You can, however, by clinical methods often get a fair idea of the nature of the trouble. The great mistake that I have seen is that for bladder symptoms, patients are so frequently given urinary sedatives without any attempt at investigation. This practice I strongly urge against, since it is so frequently responsible for the serious results of which I have spoken. If you will realize that such symptoms are indicative of mechanical or true nerve lesions, and not habit or irritations from primary changes in the urine, such as hyperacidity, and will make a rectal examination in order to palpate the condition of the prostate, and catheterize your patient carefully to determine the presence of retention, examine his nervous system and blood, you may be able to get a fair estimate of the true condition.

The adenomatous prostate is large, firm, smooth, and elastic. The carcinomatous prostate is usually small, hard, and irregular. If it develops in a pre-existing hypertrophy, it is usually as a hard lump in an otherwise smooth gland. Indeed, any hard lump in the prostate of a man beyond fifty years of age is generally cancer, sometimes stone. And since cancer occurs in about 20 to 25 per cent you will help in curing many of this disease by sending them for early treatment to your specialist as soon as this finding has been obtained. In the rectal examination it is very important to observe the tone of the rectal sphincter, since relaxation of the rectal sphincter is one of the very early findings of central nervous system disease and in this way you may protect the patient against surgery to a prostate that is innocent of involvement, the real lesion being that of the central nervous system. In about 10% of these cases, prostatic hypertrophy and disease of the central nervous system occur together. Do not forget, however, that the inability to find a large prostate per rectum does not rule out prostatic obstruction, since a median lobe or a contracted neck may be present in the bladder without the slightest palpable enlargement by rectal examination. Your chief decision here is made

by the amount of urinary retention as determined by catheterization and the finding of a normal nervous system. The rest must be determined by the cystoscope.

In suggesting to you the catheterization of your patients, I should insist that you be very careful in your technique. Infection is very common, in fact more common than proper. It will not occur if the anterior urethra is irrigated before catheterization to eliminate the bacteria which are normally present; if a sterile catheter is put in gently without trauma and the bladder is instilled with an antiseptic solution following catheterization. A great stumbling block seems to be the urinalysis. The kidney impairment and uremia due to mechanical obstruction have nothing in common with nephritis. As I have said before, it is pressure atrophy of the kidney. The urine of such individuals may be perfectly clear, with fair specific gravity and no albumin, and yet the patient be on the verge of uremia. Usually the cases with a clear urine are the worse type. The appreciation of the importance of retention from mechanical obstruction has been the greatest factor in bringing prostatic surgery within safe limits. The amount of residual urine that one gets with a catheter is far more important in this type of case than the urinalysis. Having arrived thus far in the diagnosis, it is then for the specialist to decide the exact character of obstruction, and the quality of the kidney cortex. This is done by the refined methods which we are fortunate enough to have. The cystoscope will tell the type of obstruction, whether mechanical or neurological, and will delineate the exact nature of the mechanical obstruction with the accompanying processes in the bladder. And it is certainly true that no one should attempt prostatic or bladder surgery without a careful cystoscopic investigation of the interior of the bladder.

Since 10% may be nerve lesions, a fair percentage may be a coincidental cancer of the bladder, a diverticulum or other serious pathological changes; and these must be absolutely established before any surgery is attempted in order to obtain reputable results. If this accurate diagnosis is made, the results in prostatic surgery are extremely satisfactory. One can with the cystoscope absolutely diagnose nerve lesion; in the 500 cases which we have studied we have been able in almost 100% to differentiate it from other types of obstruction and in many cases saved the patient from surgery.

The cystoscopic findings consist of a dilatation of the internal sphincter of the bladder, so that the whole posterior urethra may be inspected, showing the verumontanum, ejaculatory ducts, etc. With this dilatation of the internal orifice there is trabeculation of a delicate type which is often very characteristic. This combination of trabeculation of the bladder without obstruction at the neck is the characteristic picture of central nervous system disease.

Having determined that the condition with which we are dealing is a surgical one, it is then absolutely essential to have a thorough appreciation of the patient's general status by a careful examination of his cardio-vascular, nervous and renal mechanisms. Of these the last is by far the most important. The majority of such individuals have cardio-vascular disturbances, particularly myocarditis, arterio-sclerosis and high blood pressure, but unless these are extraordinary they do not afford a contraindication to surgery. Rest in bed, correction of absorption, relief from renal embarrassment and regulation with cardiac remedies usually make such lesions safe for operation; in fact, operative measures in this present day add but little strain to the cardio-vascular system. In my experience it has been rare to have cardio-vascular complications following bladder neck operations and several such operations have been done on post apoplectics. Patients with nerve lesions are extremely bad surgical risks and should not be subjected to major surgery if there is another way out; as a rule, you obtain only a very indifferent result locally, and the general condition of the patient is but little if at all improved, if he survives.

By far the most important factor of prostatic surgery is a safe kidney function, and an adequate understanding of the limits of the "renal safety zone" does more to make such surgery effective than anything else. The determination of this

zone for the individual is really quite accurate if one will utilize the tests which are available and take time to study the results. By this means only can the operable and potentially operable be separated from the inoperable cases.

The amount of residual urine has a great bearing on prognosis. Experience has taught us that a high residual urine from its pressure destruction makes a relative contraindication to surgery. Indeed, the most deceptive type of case is the man with a high residual, uninfected urine who appears to be in good physical condition. He has not gone through the vaccination from infection and often has not the capacity to tolerate simultaneous absorption and change of pressure from relief of the obstruction.

The total twenty-four hour urine and its specific gravity give us a good general clue to renal capacity, but either alone is of no value. The most reliable test for kidney function is the phenolsulphonephthalein test. This dye test with which you are all familiar seems to represent very accurately the amount of elimination of solids that a kidney is performing at a given time. There are, however, a great many misunderstandings about this test and it is often unjustly criticised.

Phthalein cannot be expected to foretell the exact future of an individual; it can tell only the immediate condition. It is also influenced by absorption from the tissues. In many of these elderly patients with toxic changes and poor circulation the dye is not brought to the kidney on account of delayed absorption from the tissues. Under drainage its elimination will improve when absorption improves. If a kidney is suddenly relieved of pressure it naturally suppresses. Such a kidney may have given a fair phthalein under its customary tension. This has been the most frequent misunderstanding about the test. If it is followed repeatedly and carefully I must say that I have seldom seen it fail to represent the true condition.

Study of the blood chemistry is very essential in order to determine the products of retention due to renal insufficiency. The nonproteid nitrogen gives us our best general index. Normally it is 23 to 26 mg. in 100 cc. of blood. Often in these uraemics it is over 100 mg. Here again one examination is not sufficient. Repeated tests along with phthalein must be done in order to get the stable standard. If in summarizing these tests we find them within normal limits and the patient is in good clinical condition without a high residual urine, he is ready for surgery. If not, an attempt must be made to put him in condition. This is done by a careful preliminary preparation and constitutes a most important chapter of prostatic surgery.

The two principal factors in preliminary treatment are drainage and elimination. Patients with residual urine should have a retention catheter inserted, fastened in and corked. They are instructed to empty the bladder every few hours, and should receive bladder irrigation twice daily. The catheter is changed every three to five days. The patients may be up and about and on the whole are but little inconvenienced. To institute ample drainage they must be given water in large quantities, every hour or oftener, and if uraemic a hypodermoclysis or rectal tap. The bowels are kept free but not purged. Urinary antiseptics, particularly acid sodium phosphate and urotropin should be prescribed. Good, nutritious food is essential and tonics are sometimes serviceable. Caffein is frequently of great value; it not only stimulates their general tone but also increases kidney elimination.

This preliminary treatment should be continued until the patient seems safe and no surgery should be done until he does. The period of preparation may extend from one week to several months. I should urge against suprapubic drainage as an immediate preliminary procedure; it is often too hazardous, causing too sudden change of renal pressure and adding a surface for absorption; furthermore, the patient may be incapable of response and is then in much worse condition than when on catheter life. I have seen but few patients improve under suprapubic drainage who would not on a catheter, provided they were given sufficient time.

Throughout this course of drainage and treatment the kidney function must be determined each week, that is by phthalein and blood nitrogen tests, as well as the total output of urine and its specific gravity. During this period the patient's general health must be carefully observed. When he feels better and is stronger, when his appetite improves and his color comes back, when the blood nitrogen is stable, though it may be high, and the phthalein is constant, though it may be low, he is ready for surgery. If he does not improve he should be put on catheter life because surgery will certainly kill him. The removal of the prostate is done only for relief of obstruction, and if there is no improvement with catheter drainage we cannot hope for surgical relief. The question of mortality therefore absolutely resolves itself upon the wise choice of surgical cases, and can be reduced to five per cent or under.

As soon as the patient appears to be a safe risk, we are ready for the surgical attempt at cure. I shall spare you a detailed account of the surgical procedure but will briefly outline some of the more important phases. Let us dispose of some of the rarer obstructions: bladder papilloma, causing obstruction with villi or clots should be treated with high frequency through the cystoscope, never by open surgery. The results are incomparable. Carcinoma of the bladder demands either radium or surgical removal or both, depending upon the location and type of growth. Bladder calculus if not associated with large intravesical obstruction may be crushed by litholapaxy. This is the safest method and extremely effective. Cysts and polyps may be removed by endovesical methods.

Let us now turn our attention to the surgery of the prostate. For benign growths of the hypertrophic, adenomatous type, major surgery is indicated, either suprapubic or perineal prostatectomy. These are both very satisfactory operations provided they are executed properly. There is no argument that one or the other is better suited for the adenomatous prostate; it is purely a question of individual preference. The perineal operation is one of the most beautiful and technical operations in surgery and when properly done gives excellent results. The argument that incontinence and fistulas are frequent complications is unwarranted. These may so occur in unskilled hands, but seldom in trained ones. It is hard to produce incontinence unless one is operating on a patient with a coincidental nerve lesion. This is the explanation of the usual incontinence; incomplete relief of obstruction may leave incontinence or fistula but this should seldom occur.

There are only three arguments as I see it that can be brought against a perineal operation. The first is that so few can do it; the second that recto-urethral fistula occurs even in skilled hands and is a serious complication although by the Young-Stone operation it can be cured; and the third is that the sexual powers seem to be a bit more disturbed than by the suprapubic method.

The suprapubic operation is naturally the more popular one owing to its simplicity of technique for this type of obstruction. I am decidedly opposed to a single stage operation since it offers too many serious problems at one time. The change of pressure, absorption from drainage, hemorrhage and anesthesia occurring at one and the same time make the operation too dangerous and the mortality is about twice as high as in either the perineal or the two stage suprapubic.

The two stage operation is an excellent one in that it separates the serious problems of prostatic surgery and does not shower the patient. The first stage is done under local anesthesia and the bladder is drained. There is rarely a drop of leakage around the tube, so that absorption is lessened and the patient is but little disturbed, provided he has had proper preliminary treatment. This operation not only walls off the suprapubic space and fascia from infiltration but gives thorough drainage and allows engorgement around the prostatic orifice to subside. When the patient is again in condition, and this is usually in about a week, the second stage operation is done through the previous opening. It is best executed by an intra-urethral enucleation under either gas or sacral anesthesia. This part of the operation takes but a few minutes of time. It has been my custom to insert a Hagner bag in the orifice to control bleeding; to take a few sutures to close the upper part of

the abdominal wound and leave the lower part open without tube drainage. The wound is smeared with stearate of zinc to make it water proof. I can see no reason for a tube drain since the tissues are walled off and such drainage only invites necrosis. With these procedures it is rare to see sloughing wounds; they usually heal clean.

Should there be an ammoniacal condition the application of Bulgara bacilli will promptly eradicate it.

Carcinoma of the prostate offers many problems. I am confident of one thing; that a suprapubic operation should not be done as its results are not nearly so satisfactory as by the perineal route. Recurrences are more frequent and the result not nearly so good. It is my practice to use radium by embedding it in the prostate either through the perineum by needles or implanting it in the capsule after surgery.

For the contracted neck or median bar formation which comprises nearly 20% of obstructions, the intraurethral operation is the one of choice. Such cases seldom require major surgery. Since Young, of Baltimore devised his punch in 1909, men who have used this instrument have obtained excellent results. The chief obstacle to the popularity of the procedure has been the frequency of hemorrhage and absorption from the raw surface. Usually local anesthesia has also been inadequate. For these reasons I have recently devised an electric cautery punch which I shall show you and have also employed a novel method of infiltrating the bladder neck with novocaine under direct vision through the endoscope. I have felt that these obstructions should be burned to protect the patient against both hemorrhage and absorption. My results in the last three months since using this instrument have justified its construction. I have done twenty cases, all of them in the office under infiltrative anesthesia. There has been not the slightest complication; not a single one has had to be treated for hemorrhage or clots and at most there has been just the slightest staining of the urine. Our immediate results have been excellent. The late results of this type of operation are very satisfactory.

In summarizing I should say that with an accurate diagnosis whereby the exact type of obstruction is understood; careful investigation into the patient's general condition; a thorough preliminary treatment to relieve uraemia and to restore kidneys which are capable of resuscitation and eliminating the ones which are not, a careful perineal or two stage suprapubic operation done at the proper time, with vigilant after treatment, will give results comparable to any type of surgery, with a mortality that should not exceed five per cent.

723-32 University Club Building.

PYELONEPHRITIS.

P. W. Aschner, New York (*Journal A. M. A.*, Jan. 31, 1920), says that recently the pendulum of opinion has swung toward conservation of the diseased kidney in pyelonephritis, making decapsulation or nephrotomy the methods of choice. Some take a middle ground and are guided by the bacteriologic findings of the urine obtained with a ureteral catheter, choosing nephrotomy for the milder bacillary infections such as *B. coli* and *B. pyocyaneus*, and reserve nephrectomy for the coccus infections. He denies that any hard and fast rule can be relied on, and decision as to operation must be made from the patient's clinical condition, his estimated natural power of resistance and the margin of safety. It is evident, he thinks, that nephrotomy or decapsulation cannot effectually remove or drain the infected tissues, but can only relieve tension and engorgement. The operation doesn't remove the focus nor protect against extension and metastasis. The nicest clinical judgment is required, and a primary nephrectomy is by far the safest measure when there is severe septic absorption and renal insufficiency with nitrogen retention, and in long standing cases with loss of weight and strength. The margin of safety is small with these patients, and life must first be conserved. Two cases, illustrating these points, are reported. In one, primary nephrectomy caused the uremia to disappear and gave excellent functional results. The second case was fatal, the patient succumbing to peritonitis, either metastatic or by direct extension. Decapsulation had first been performed, followed by secondary nephrectomy, and the author believes the peritonitis was already present when nephrectomy was performed. If it had been performed at first, Aschner believes that the patient might have been saved.

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Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

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EDITORIAL**AS TO SENATE BILL 111—AS THE MATTER APPEARED IN
OCTOBER, 1918.****ARGUMENT SUBMITTED AGAINST THE REPEAL
OF THE MEASURE.**

We ask the voters of Oklahoma to vote "No" on the proposition for the following reasons:

First: The House and Senate of the State Legislature and committees from each of them, studied the questions involved for many weeks, and, finally, by overwhelming majority in each house voted to require persons holding themselves out as chiropractic healers to undergo a long and proper study of the fundamentals of anatomy, bacteriology, surgery, obstetrics and other matters pertaining to the treatment of afflicted people before they should be licensed to practice any form of "medicine" in the State of Oklahoma. It should not be overlooked that all people understand the words "practice of medicine" to mean the assumption of the position of healer, adviser and treator of sick persons. The above law is now on our statute books and if you believe, Mr. Voter, in the protection of yourself, your family and our boys in the Army and Navy, vote "No" and permit the law to remain as the legislature passed same.

Second: Chiropractors in all states heretofore have declared that they did not believe in quarantine, vaccines, serums, antitoxins or drugs in the treatment of the sick. This position is invariably assumed by their leaders and instructors; that they did believe that all such measures could be supplanted by simple manipulations of the spinal column.

Third: We submit that heretofore all courts inquiring into their practices have determined that they are either spurious osteopaths or fakirs claiming to do

more by their measures than even the osteopaths themselves claim; that they set aside all teachings of scientists and the findings of scientists based on years of accumulated and endeavor study.

Fourth: Our present great Army and Navy and those of our Allies have been freed and kept free from typhoid fever, diphtheria, epidemic meningitis and many other infections, heretofore the greatest destroyers of soldiers in time of war by the use of quarantine serums and antitoxins, all of which measures the Chiropractics loudly and constantly declaim against as being poisonous and dangerous to mankind. Even the cattle, sheep, horses, hogs and dogs of our farmers are now protected against disease by the use of measures condemned by the Chiropractic profession.

We submit that if the Chiropractic profession is to be allowed to "Free Lance" among the sick men, women and children of our State, that the greatest wrong has been done our soldiers and sailors and those of our Allies in subjecting them to vaccination against typhoid, smallpox, paratyphoids and to administration of serum to cure them of meningitis and diphtheria; that the time is now here for the intelligent voters of Oklahoma to go on record against the lowering of standards of medical education already set up in other states.

Fifth: We call your attention to the fact that the law we seek to invoke is already adopted in most of the older states of the Union.

Sixth: The effort to set aside this law of the Legislature of your state is only an effort to permit illy prepared men and women to go out among the people, to hold themselves out as doctors, as capable of taking life and death in their hands and assuming the function of advisor in the greatest emergencies confronting the human being.

Seventh: We submit that before any person is allowed to assume the function of advisor to the sick, he or she should be required to undergo a long course of study and show their fitness to diagnose, recognize and treat disease before they are permitted to hold themselves out as such advisors.

Eighth: If the hogs and cattle of our farmers are kept free from disease by the use of vaccines and serums, it ill becomes any set of men to decry their use in the human being to prevent disease, and this in substance is exactly what the Chiropractic profession is attempting to do.

Ninth: We have no objection whatever to a person employing any school or system of medicine, treatment or healing he desires, but we do contend before anyone is allowed to assume that function, such person should be required to most arduously and intelligently study every phase of the human body, its peculiarities and ailments. Such restrictions are properly prescribed by the State as they are in other matters requiring scientific research. We believe our Legislature studied every phase of this matter in the weeks it was presented to them and that their act should be sustained.

Tenth: Finally, we submit that this is a time when every theory, every procedure has an opportunity to be tried. We are in a world war and men are no longer moved by sentiment. The thing that can serve is used; that thing that cannot serve is cast aside. Proceeding upon that basis, the United States Army and Navy now have more than 30,000 doctors looking after the health of the boys who go out to fight for our country, but in neither Army nor Navy is there a single Chiropractor.

CLAUDE A. THOMPSON,
LEROY LONG,
JOHN W. DUKE,
O. J. LOGAN,
WARREN K. SNYDER,
A. L. WAGONER.

*In October, 1918, when the entire World was distracted by war, when Okla-

homa had in the uniform of army, navy and other departments, nearly 500 physicians, voluntarily serving their country, practices at home disorganized, with distraction the order of the day; then the Chiropractic, unserving, useless, a leech and fraud among a people stricken with the additional burden of a destructive epidemic of influenza, to the control or abatement of which he neither offered or contributed an atom of succor; then, appreciating the advantage to him in the absence of the most virile of our profession, was perfectly willing to submit to the people at the polls his attempt to repeal the law which proposed to force him to study at least as long as a nurse studies, no whining protest then came from him, but, today, October, 1920, two short years later, he is found striving by every means to induce Governor Robertson to withhold issuance of the proclamation ordering the referendum petition he initiated placed before the intelligent Oklahoma voter for decision. The law, as to referendums requires an argument to be submitted pro and con, which is published in one paper in each county of the state. We had in the office of Secretary of State at that time, a man who had himself signed the Chiropractic petition, had seen to it that argument of the Chiropractic was filed, but not one word, though in daily contact with your Secretary-Treasurer, then stationed at the Capitol and aware of the deep interest physicians naturally felt in the measure, was suggested that the very day had arrived when argument could be received for publication. The above, hurriedly written effort was the product of Dr. LeRoy Long and myself, obviously defective, but as a reminder of the tragedies of those days, as an index of the low character of the Chiropractor in general, who, in the very height of the epidemic's destruction, when no doctor had a moment for anything except alleviation of great distress, when scores of volunteers from lay ranks served as best they could to save human life, we find these ignorant non-productives emitting this whine:

"On account of the Spanish Influenza epidemic . . . meetings are forbidden . . . we shall postpone . . . meeting of State Association until . . . the Medical Doctors *permit* us to meet."

The matter is reproduced at this time as a reminder of the conditions then existent, from which no effort is necessary to draw conclusions.—Editor.

OKLAHOMA'S EDUCATIONAL AND PROFESSIONAL REPUTATION AT STAKE.

After years of abortive attempt and endeavor we have finally come to the point where the Oklahoman must either ally himself in the ranks of refinement, culture, common sense and worth or retrograde to the level of ignorance, vulgarity and commonness. No other construction can be placed upon the verdict of the voter, who on November 2nd votes "No," thus sustaining the regulative act of 1917, or "Yes," which will repeal, render null and void the act which has for its purpose the very reasonable demand that those proposing the assumption of the gravely responsible and honorable function of advisor to the ill, as a learned profession, shall give evidence of study over a term of twenty-seven months. What an outrageous injustice! Why such requirement of one person, when the profession of medicine must first qualify to high degree as technically fit from the literary point, from the moral standpoint, then study **not less than four long years**, rapidly increasing among schools to five, then further fit himself by internship of a year's duration? Why question the assertion of the pert ignoramus who insists that nine months is sufficient? Why require our trained nurses to master intricate details of that science and art, if an ignoramus can master a great science, and by short cuts, unknown to any other man of science, fit himself to assume responsibilities affecting human life with ability equalling—he will tell you superior to—that of the finished student?

In this some one is in error, very grave error. Either the entire fabric of the honorable, time-tested science of medicine as understood and interpreted by hun-

dreds of thousands of students in every clime and of every race and nationality is grossly wrong and fatally defective or the pretensions of a few hundred, illy prepared, if prepared at all, alleged students, judged by any standard of education and science, aside from medicine, most surely incompetent, inefficient, palpably immature as to fitness, if judged by standards applied to any other profession or calling, must be adjudged wrong.

We believe the intelligence and common sense of our citizen will not be found astray and bewildered in making his verdict. Largely he feels little or no interest in these matters, no more than you or I feel on matters of engineering, law, sculpture or painting, so it follows some one technically informed must advise him as we must be guided in problems not directly our concern. Only the doctor may do this with correctness. On that score hangs the responsibility of the Oklahoma Doctor for the result of the November elections. Experience shows that thousands of people disregard the special propositions submitted for their verdict, so in this case the doctor must make it his affair to advise the bewildered voter which should be a matter of very few moments. To a great degree the good name of your State is imperilled, certainly it will be dragged in the dust of scientific opinion if we furnish to the world the amazing spectacle of a great political body of more than two millions of people duped by the false argument, and clear absurdities submitted by the Chiropractics as fixed law and settled result of reasoning out a science.

The Oklahoma doctor and his friends have so many logical arguments and settled facts which may be presented to the uncertain that to the informed failure seems impossible, yet it is possible if the doctor fails to do his duty in properly leading his people to the right conclusion. No one holds a place higher in esteem than does the honorable doctor in the minds and hearts of his grateful patients and friends. Years of association in times of trouble bind the doctor inseparably to his own people; it is true, however, that to a certain extent the profession of medicine, that is the "other doctor" is not regarded with that respect which is really his due, so that brings us to the suggestion that each doctor "attend to his own business" in this matter. Do not fail to exert every possible atom of influence which you may properly do in your own sphere of influence, then we shall be able to proclaim to the world that our own Oklahoma is not a state whose preponderant constituent is clay, very common clay.

DOCTOR JOHN W. DUKE.

IN HIS MEMORY.

Dr. Duke, President of our Association, was born June 5, 1868, at Scobey, Mississippi, graduating in medicine from the University of Tennessee in 1891, after which he laid carefully his foundation for his future by post-graduate work in the University of New York, where he was Clinical Assistant from 1892 to 1893, later holding positions in Wards Island Hospital for the Insane and also in the Connecticut State Hospital. In 1898 he went abroad and continued his studies in Heidelberg, also visiting the different European medical centers.

Dr. Duke held many positions of trust during his lifetime. Notably, he was the only democrat that has, up to this time, been elected Mayor of his home town, Guthrie, showing conclusively the esteem with which he was regarded by his fellow-townsmen. Under one state administration, he served as Secretary of the State Board of Medical Examiners. Immediately following this appointment, he assumed the duties of State Commissioner of Health, also serving on the Western Oklahoma District Exemption Board throughout the war. He occupied the chair of Professor of Mental and Nervous Diseases in the Oklahoma University up to the time of his death. He was a delegate from Oklahoma to

the Democratic Convention at San Francisco and was the manager of the campaign for the Presidency of his close and personal friend, Senator Robert L. Owen.

Perhaps the greatest of his life's work was the establishment and maintenance of his sanitarium at Guthrie in 1909. Under his able direction, it grew to great importance. He was prominent in Masonic circles, having attained to the high station of a thirty-third degree Mason. Dr. Duke married Miss Isabel Perkins in New York in 1901. Besides his wife, he leaves a sister and brother in Mississippi.

What the medical profession thought of him, both personally and collectively, is best expressed by the inscription which appeared under his photograph published in the June Journal of the Association.

"A Physician of the first class. Always a citizen of the first rank. Truthful, honest, and among the noblest of the land—a Man—whom we honor and revere."

By C. W. Heitzman.

Invisible domain—it lies so near!
Yet nothing know we of that dim frontier
Which each must cross, whatever fate betide.

From the day of his arrival into Oklahoma until the moment of his death, John W. Duke was indissolubly linked with the fortunes and the progress of this State and her people. Of him it can be truly said that "To such duty I, too, am born." If at any time during his long years of service as citizen and as physician he looked backward, it was only to look forward. While we are bowed down with mournful hearts, with eyes moistened, and the big drops steal down our cheeks, his sturdy virtues, his signal services, all his sterling qualities rush with full tide upon our recollections. When the word was flashed over the wires that John W. Duke was no more, it was so terrible that at first it stunned sensibility. The first feeling was the least.

Again we were brought to recognize our piteous helplessness. Other and common griefs belong to someone in chief; this belongs to all. In our unity of grief and indivisible fellowship of anguish we ask; is any man that ever was fit to live, dead? In this great State his dust shall rest, his memory shall live, a sacred treasure that shall serve to kindle anew our zeal and patriotism while the winds that move shall chant his requiem.

Others abide our question. Thou art free.
We ask and ask—Thou smilest and art still,
Out-topping knowledge.

By Robt. L. Owen.

He was my friend, devoted, unselfish and true. I first met him on a European trip and traveled through England, France and Germany with him in 1898, and was powerfully attracted to him because of his gracious and fine manner, his wonderfully handsome face and bearing, which I soon learned represented an intelligence of the highest order, a great brain and a great heart. He was a very learned man and was not surpassed as a psychologist in the United States. He was brave as a lion, but modest, generous, tender in sentiment and of very great nobility of character.

It was always a delight to be with him and I was profoundly honored in having his warm friendship and regard.

As Health Commissioner of the State of Oklahoma, the whole state will remember his weekly letters advising the people through the columns of four hundred newspapers how to protect themselves and their children from disease and how to



DR. JOHN W. DUKE

promote their health. No man in Oklahoma has been more useful than John W. Duke and no man better beloved by those who had the opportunity of knowing him well. He has honored his state by his life and has set a splendid example of fine citizenship; his memory can never die and his influence will live through the lives of thousands of others.

His spirit has departed from its beautiful earthly tenement—which was laid in its last resting place by loving hands at Guthrie, October 12th, 1920.

If every one to whom he had been kind had laid a blossom there, the mound would have been covered by a wilderness of flowers.

Till we meet again. Farewell!

By A. G. C. Biéler, Guthrie.

I counted Dr. Duke as one of my best friends whose passing away is like the taking of a brother. He and I have been most intimate in our friendship and associations for nearly twenty years. The State and this community have lost one of the best and ablest men who ever lived in it. His was one of those striking personalities, never to be forgotten. His countenance, shining with the noble spirit of the inner man, inspired confidence, esteem and trust. Better acquaintance with him increased these impressions. His simplicity was childlike, but his firmness that of a leader of men. His genius was in his intuition, both with human beings and with subjects with which he dwelt. His first impressions were seldom wrong and his final determinations were the result of a brilliant mind which had made thorough investigation of the subject at hand. He was the best and most convincing professional witness I ever saw on a witness stand, absolutely unperturbed, always careful in his answers and unmoved by any claim, however strongly presented, that he was wrong. I remember on one occasion, when in the midst of a trial wherein the defendant feigned insanity, he was asked by an old and experienced lawyer, with a book of one of the highest authorities open before him, whether the author, well-known to Dr. Duke, did not hold to a certain theory. Dr. Duke answered promptly "No." The lawyer read the supposed text, Dr. Duke denied that the author did. The lawyer in much spirit said, "I have read the text to you and it holds as I stated"; Dr. Duke, without a tremor, answered, "Judge, you have either unintentionally or deliberately misread that authority." The judge in heat handed the book to Dr. Duke, in confidence that the doctor was mistaken, and asked him to read it. The doctor read it, showed the lawyer had mistaken one word of the text and that it absolutely sustained Doctor Duke and disputed the lawyer's claim. It takes a man of thorough knowledge to do that, especially on a question as that one was, where there were medical opinions both ways. Doctor Duke's skill in his profession, however, was such that he was able to stand such a test.

I regarded Doctor Duke as one of the greatest alienists in the country and one of the most learned men in his profession. His citizenship was of the highest type, and while he was fond and firm in his love of his party, he was always first in his adherence to the highest principles. I think, though, the place where his faithful spirit shone the most was in his friendship for those he liked and cared for. This was illustrated in his friendship for our beloved Senator, Robert L. Owen. Just to look at their agreeable and pleasing and lovable association was always an inspiration to me and I have many times likened it in my mind to that of Damon and Pythias, and as the greatest illustration of that historic friendship. Doctor Duke, however, was a friend of everyone who was honorable and upright and believed in aiding the right and resisting the wrong, and I am sure that every friend of his in the State and in the Nation will say, as I feel at this moment, that in the death of Doctor Duke, he had lost his best friend.

His was a kindly heart, full of sympathy for the afflicted and distressed and

his patients at once were drawn to feel that their doctor not only had the ability to cure them of their sufferings but bore their sufferings with them.

He was a man of great learning; he had not only mastered the authors of his own profession but was well versed in all the arts, sciences, literature, government, and even in law; in fact, there was no subject of which he was ignorant, and he could join intelligently in the discussion of any subject, whether it be the most simple or the most profound.

He possessed the highest faculty of man—the ability to read the human heart from the human face, the ability to truly and unerringly measure the mental and moral worth and stature of a man.

He believed in the Fatherhood of God and the brotherhood of man, and himself a Prince, in the possession of mind and heart and soul and perfect manners, was as much at home and interested in the most lowly as those of the highest rank—none were too humble to be his associates and none were too high not to prize his friendship, and from those who knew him and associated with him in every rank of life, there will be but one verdict on his death and that is, that with his departure there was gathered into eternity a man of the highest intelligence, of the kindest and purest spirit and of the noblest soul.

By *R. I. Williams, ex-Governor,*
Judge U. S. District Court, Muskogee.

Dr. John W. Duke was a great man, both in heart and mind. He possessed in a highest degree the virtues of truth, love and friendship. Nothing sordid characterized his nature; but on the contrary he was both unselfish and chivalrous. Clean, gentle and as refined as a modest woman; but as to questions involving honor and principle he was aggressive and decisive in maintaining same. The medical profession and science has lost one of its most useful and distinguished members; the State one of its ablest, most useful and most loyal citizens. It will be difficult to replace him. Nature's molds do not produce in a State many men possessing so many virtues and at the same time filling such a wide field of usefulness during a single generation.

PERSONAL AND GENERAL NEWS

TULSA ACTIVITIES.

Dr. Bertha Margolin spent a few weeks at Colorado Springs.

Dr. T. A. Penny spent a few weeks in California this summer.

Dr. C. P. Linn has just returned from a few weeks visit to Hot Springs.

Dr. W. Albert Cook spent a few weeks at Greenlake, Wis., this summer.

Dr. Ross Grosshart spent a few weeks at Colorado Springs this summer.

Dr. W. W. Beesley visited Yellowstone Park and California this summer.

Dr. C. F. D. O'Hern has just returned from a two weeks stay in Chicago.

Dr. A. W. Pigford has just returned from a two weeks stay in Mississippi.

Dr. R. W. Dunlap has just returned from a few weeks visit to Southwest Missouri.

Dr. M. A. Houser has just returned from a six weeks hunting and fishing trip in Canada.

Dr. C. A. Dillon has just returned from a few weeks visit to the John Hopkins Clinic at Baltimore, Maryland.

Dr. Fred Y. Cronk visited his mother at Woodbine, Maryland, also the John Hopkins Clinic at Baltimore, Maryland.

Dr. G. A. Wall, Tulsa, will attend the Congress of Surgeons in Montreal and take in the clinics of various eastern cities during his trip.

Dr. J. S. Holland, Madill, visited the Mayor Clinic in August.

Hugo physicians are securing funds for the erection of a hospital.

Dr. W. E. Dixon, Oklahoma City, attended the Montreal meeting of American Congress of Surgeons, etc.

Dr. and Mrs. E. S. Ferguson, Oklahoma City, have returned from an extended vacation at Alexandria, Minn.

Dr. and Mrs. L. T. Gooch and daughter, Lawton, have returned from an extended trip to California points.

Dr. Ben C. Harris and family, Sapulpa, have returned from a motor trip to their old home in West Virginia.

Dr. and Mrs. Walter Hardy, Ardmore, attended the Montreal meeting of Congress of Clinical Surgeons of America.

Dr. John A. Roddy, Oklahoma City, was recently elected Grand Knight, Oklahoma City Chapter, Knights of Columbus.

Dr. R. E. Waggoner, Pawnee, is slowly recovering from an ankle injury which has incapacitated him for several months.

Dr. H. Coulter Todd, Oklahoma City, who had been spending his vacation in Los Angeles with his family, has returned.

Dr. J. W. West, Purcell, accompanied by his family, motored to eastern Oklahoma fishing centers for his August vacation.

Dr. W. W. Miller and wife, Gotebo, have returned from a motor trip through Colorado, Montana and other western states.

Dr. and Mrs. S. N. Mayberry, Enid, have returned after spending the summer at their summer cottage, Alexandria, Minn.

Dr. and Mrs. W. A. Aitken, Enid, have returned from an extended summer vacation spent at Cottonwood Lake, Colo.

Dr. F. B. Fite, Muskogee, spent the month of August motoring through Colorado, Montana and the Yellowstone region.

Dr. Rueben J. Dice, Randlett, and Burnice Throckmorton, of Anderson, Iowa, were married at El Reno, September 21st.

Dr. and Mrs. E. Brent Mitchell, Lawton, visited northwestern Arkansas resorts during the summer, motoring across the state.

Dr. W. B. Hudson, Yale, visited northern points in August, incidentally attending meeting of Nebraska State Medical Association.

Dr. L. A. Milne, Lawton, now stationed at Ft. Sill, Old Post, has been commissioned a Captain in the Medical Corps of the Regular Army.

Dr. E. E. Rice, Shawnee, visited Boston and other eastern cities and clinics on the occasion of entering his son at Harvard Medical School.

Dr. J. C. Baker, Port, announces his removal from that place and will enter the service of the National Oil Company with headquarters in the east.

Dr. H. T. Ballantine, Muskogee, registered the loss of a new five-passenger Dodge car by theft. The car was stolen from its berth in front of the P. and S. Hospital.

Dr. J. A. Muller, Snyder, recently swore out a warrant charging one J. Eastep, combination Baptist preacher and alleged healer, with practicing medicine without a license.

Dr. Hugh Scott, Oklahoma City, State Supervisor for Oklahoma, U. S. Public Health Service, is in Washington for a conference with the Surgeon General of the Public Health Service.

Dr. E. S. Lain, Oklahoma City, is preparing to make a trip to various Indian reservations for the purpose of making a special study of skin diseases supposed to be peculiar to the Indian.

Dr. James H. Cash, for many years located at Glencoe, has moved to Stillwater and will assume the location of Dr. W. A. Cleverdon who is preparing to leave Stillwater about November first.

The Oklahoma City Clinic announces, through Dr. D. D. Paulus, Radiologist, that the Clinic has secured a sufficient quantity of radium for use in treatment of those cases in which it is indicated.

Dr. Thomas W. Dowdy, New Wilson, accompanied by his family, visited Chicago and Mayo clinics in August-September. Dr. Dowdy purchased a new car while away, motoring via Colorado on his return trip.

Dr. F. P. Von Kellar, Ardmore, has filed suit against that city for personal injuries due to his automobile colliding with the street sweeper, which, it is alleged, had been left in the middle of the street without warning lights.

Drs. T. M. Alderhold and H. C. Brown, El Reno, announce formation of partnership which succeeds the firm of Drs. Hatchett and Alderhold, Dr. J. A. Hatchett retiring after many years of successful work with Dr. Alderhold.

Woodward had a wide "calling to the colors" in August on the occasion of a clean-up by sanitary inspectors. Several citizens contributed to the municipal fund as compensation for allowing good honest old dirt to accumulate about them.

The Duke Sanitarium, Guthrie, announces that there will be no change in policy and management by reason of the death of Dr. Duke. Management of the institution will continue, as heretofore under Dr. C. B. Hill and Mrs. Duke.

DOCTOR SAMUEL M. HUNTER.

Dr. S. M. Hunter, whose death occurred at his home in Oklahoma City, August 31, 1920, was born at Alexandria, Alabama, 66 years ago July 19, 1920. Dr. Hunter spent most of his boyhood days on a farm near Duckton, Tennessee, leaving home after the age of twenty and working his way through medical school. He graduated at the Louisville Medical College in 1879. He followed his profession at Ducktown, Tenn., Hope, Kansas, and Merkle, Texas, prior to coming to Oklahoma City in the fall of 1901, where he had been practicing until the first of July, 1920. Several years ago Dr. Hunter served as Superintendent of Health for Oklahoma County. Immediately after his son, Dr. George Hunter, City Physician, entered the Army service in 1917, Dr. S. M. Hunter acted as City Physician for a while. Dr. Hunter leaves a widow and nine children.

DOCTOR CHARLES HENRY MAHAR.

Dr. Chas. H. Mahar, of Spiro, Oklahoma, died at the Sparks Memorial Hospital, Ft. Smith, Ark., August 19, 1920, from blood poisoning.

Dr. Mahar was born at Scranton, Pa., March 27, 1856, graduating from the Philadelphia School of Anatomy, February, 1881, later passing the Pennsylvania Board of Pharmacy, registering in that state, later in Kansas. He was married to Miss Bella B. Steele, at Harveys Lake, Pa., in 1882, three children being born to them. Dr. Mahar was a member of the Methodist Church, affiliating with that organization in his early youth.

Dr. W. T. Tilly, Muskogee, has opened his new hospital at 343 East Okmulgee Ave. The institution is formed by alteration of a rather large apartment house to which was added an entirely new building, making altogether 50-bed capacity. It is very well located on a wide street, convenient to car line and near the business district of the city.

Dr. Elizabeth Pearce, Boynton, has corrected an erroneous statement appearing in the August Journal and in the State press generally to the effect that the first woman to receive the degree of doctor of Medicine from the State University was Dr. Elizabeth Lehmer, Oklahoma City. That statement is not correct, as Dr. Pearce was the first woman to be graduated. Dr. Lehmer, however, received the highest grade on examination from the State Board of Medical Examiners.

The Funeral Cortège of Dr. John W. Duke, Guthrie, witnessed a touching exhibition of respect when the procession reached the site of the great three million dollar structure under erection by the Masonic fraternity, of which Dr. Duke attained the highest degree, that of the 33rd. To a man, including the stenographers and clerical force, they formed a silent, uncovered line of erect men and women, covering more than a block, giving testimonial of the high regard held toward their distinguished departed friend and ablest citizen.

Dr. A. L. Blesh, Oklahoma City, announces his resignation from the clinical staff of the University Medical Department. He will continue, however, the courses in didactic lectures heretofore given. The resignation was due to determination of the medical school to hereafter hold all student clinics at University and St. Anthony's hospitals. Dr. Blesh's clinics were held at Wesley Hospital, and due to lack of time his work would not permit of division. Wesley Hospital announces that his regular Monday and Wednesday surgical clinics will continue under he and Dr. Stout. For this clinic Wesley Hospital makes a flat rate of \$2.50 per day for a limited number of patients, which service includes x-ray and laboratory.

Rainey Mountain Indian School Buildings will be converted into hospitals for care of tuberculous soldiers and sailors and other beneficiaries, according to press dispatches, after certain preliminary surveys and inspections are made. If this institution is accepted and placed upon a practical and useful basis by the U. S. Public Health Service, the credit should be accorded Major H. Scott, Supervisor for Oklahoma, U. S. Public Health Service, more than to any other individual. Oklahoma citizens generally, and highly informed medical men in particular, regret that more provision cannot be made for the care of Oklahoma's ill and injured men, in their home state, by their home physicians and near the homes of their relatives and friends.

War Veterans suffering disabilities and illness due to the service are no longer sent to Base Hospital No. 25, Houston, Texas, but to the U. S. Public Health Hospital No. 35, at St. Louis. This very pleasing information heralds a new order to that effect, and certainly meets with the approval of all physicians conversant with the many discomforts of the Houston institution. Just why anyone persuaded those in authority to designate that delectable spot at Houston, in which our sick soldiers might swelter in the semi-torridity of the tropics, has never been explained to the satisfaction of those interested. While the cleaning process was going on, the clerical force of the Supervisor 14th District also had its promotion to Dallas; their new location is at Pacific and Akard Streets. Several other changes of lesser necessity and importance which would further improve the service have not yet been ordered but likely will be made soon.

Dr. T. H. Briggs and family, Atoka, visited Tennessee in August.

Dr. W. E. Lamerton, Enid, is visiting Boston and other eastern cities.

Dr. A. North, Bartlesville, visited the Great Lakes region on his vacation.

Dr. J. L. Blakemore, Muskogee, visited relatives in Virginia during August.

Dr. R. L. Hall and family, Pawhuska, visited Yellowstone Park for their vacation.

Dr. and Mrs. J. A. Milroy, Okmulgee, visited Hollister, Mo., on their summer outing.

Dr. Fowler Border, Mangum, attended the American Congress of Surgeons at Montreal.

Dr. J. C. Johnston and wife, McAlester, have arrived home after a motor trip to New York.

Dr. A. L. Stocks and family, Muskogee, motored to Colorado points in August-September.

Dr. H. M. Reeder, Shawnee, returned early in September from a postgraduate trip to Chicago.

Dr. C. E. DeGroot and family, Muskogee, visited White Sulphur Springs, Va., during the summer.

Dr. A. G. Cowles, Ardmore, is attending clinics in Chicago and will do special work in Cleveland.

Dr. and Mrs. Fred S. Clinton, Tulsa, made an extended trip to Pacific coast points during the summer.

Dr. E. B. Thomason, Healdton, has sold his interest in the Healdton Hospital and located in Duncan.

Dr. and Mrs. John Reynolds, Muskogee, visited the Montreal meeting of Congress of Clinical Surgeons.

The Southern Medical Association issues preliminary program for their annual meeting November 15-18, Louisville, Ky. The preliminary announcement gives notice of a formidable meeting, covering every phase of medicine; the first day being allotted to Southern States Association of Railway Surgeons; Southern Hospital Association; Southern Gastro-Enterological Association; National Malaria Committee (Conference on Malaria); Association of American Medical Milk Commissions; Conference on Medical Education and the Sections on Urology; Orthopaedic Surgery; Roentgenology; Obstetrics, with an evening dinner (informal banquet), the Association tenders Presidents and Secretaries of State Medical Associations and State Health Officers of the states comprising the Southern Medical Association. The above gives a faint idea of the magnitude of this meeting and evidences the great stride the organization has made since its organization. Remainder of meeting is allotted to every activity going to make success; sections; teas for visiting ladies, who are specially provided for by inclusion of social features; reception and dance; alumnae reunion dinners; scientific exhibits, moving pictures, etc., Secretary-Editor Seale Harris spares no effort to give the unusually complete program widest publicity. A symposium on nephritis Thursday afternoon, November 18, will be participated in by some of the leaders in internal medicine of the country.

MISCELLANEOUS

AN EXPOSE OF SHIFTY MEDICAL COMMERCIALISM BY THE SURGEON GENERAL OF THE ARMY.

(This statement indicates clearly the attitude far too prevalent on the part of exploiters of drugs for mercenary gain only. The mere fact that circulation of such matter is in the worst bad faith has no weight with such concerns; legally right is sufficient, the moral aspects have no place in their plan of existence.—Editor.)

LETTERHEAD OF THE SURGEON GENERAL OF THE ARMY, WASHINGTON.

September 7, 1920.

MEMORANDUM for the Surgeon General, U. S. Public Health Service:—

1. During the mobilization period in 1917 experimental use was made of the tube herein mentioned for troops who were so situated as to be denied the usual prophylactic procedure. The experiment was a failure, and it was promptly discontinued. As a result it has never enjoyed the approval of the War Department.

2. In payment for the tubes employed in this experiment, the Proventube Company received a Government check, facsimile of which they are now reproducing as an advertising medium. Legally, I suppose they have some right to do this, and, unfortunately, I know of no steps which the Government can take to prevent it, unless action is taken on the ground of fraud. In this case fraud must be established before we can act. I shall take up this question with the Interdepartmental Social Hygiene Board as soon as Dr. Storey returns.

3. Also, there might be some small chance of accomplishing something by placing the matter before the American Advertising Association, and I am now taking steps to bring this subject to their attention.

4. I agree with you that the use of this form of advertising constitutes a serious difficulty which must be overcome by those who are working to obtain the control of venereal disease. The system is vicious, but unless we can establish fraud, I fear it will be difficult to stop it.

M. W. Ireland,
Surgeon General, U. S. Army.

THE DUKE SANITARIUM, Guthrie, will have no interruption in service and management, all of which will continue under the control of Dr. C. B. Hill, who has long been connected with the institution, and Mrs. Duke and the remainder of the staff familiar with its problems and needs will continue in their respective situations as they were during the life of Dr. Duke.

COUNCIL ON PHARMACY AND CHEMISTRY

AMERICAN MEDICAL ASSOCIATION

(The following articles produced by advertisers in this Journal have been accepted for inclusion with New and Non-Official Remedies by the Council on Pharmacy and Chemistry.)

NEW AND NONOFFICIAL REMEDIES OF OUR ADVERTISERS.

Sterile Solution of Lutein—H. W. D. Each cubic centimeter contains the water-soluble extract of 0.2 Gm. lutein—H. W. D., freed of protein in physiological solution of sodium chloride. For a discussion of the actions and uses of ovary preparations, see New and Nonofficial Remedies, 1920, p. 201. The solution is supplied in the form of Ampules Sterile Solution of Lutein—H. W. D., containing 1 cc. Hynson, Westcott & Dunning, Baltimore.

Ovarian Residue—H. W. D. The residue from the fresh ovary of the hog, after the ablation of the corpus luteum. Ovarian Residue is used for the same conditions as the entire ovarian substance, but is claimed to have the advantage of being somewhat more stable. Ovarian Residue—H. W. D. is supplied in the form of 5-grain tablets only. Hynson, Westcott & Dunning, Baltimore (Jour. A. M. A., Aug. 7, 1920, p. 378.)

Tablets Anterior Pituitary-Armour, 5 grains. Each tablet contains 5 grains of desiccated pituitary substance (anterior lobe) Armour (See New and Nonofficial Remedies, 1920, p. 207). Armour & Co., Chicago.

Tablets Ovarian Substance-Armour, 5 grains. Each tablet contains 5 grains of Ovarian substance-Armour (See New and Nonofficial Remedies, 1920, p. 202). Armour & Co., Chicago.

PROPAGANDA FOR REFORM.

Digitalis Therapy. Thanks to the development of appropriate methods of physiologic assay, digitalis preparations can now be evaluated in terms of their real potency, and products can be prepared which are stable and constant as the pharmacopeial standards demand. Physicians have learned, largely through the leadership of Cary Eggleston, how to estimate digitalis dosage on the basis of body weight. As the possibility of overdosage can be recognized by the occurrence of symptoms such as nausea, or by the electro-cardiograph, it becomes possible to push the dosage speedily to the limit of tolerance, with corresponding therapeutic advantage. There remains however, the important need of differentiating more clearly the patients for whom digitalis is actually indicated (Jour. A. M. A., Aug. 7, 1920, p. 417).

Internal and External Antisepsis. Despite the numerous efforts to demonstrate the efficacy of this or that chemical agent or drug as a gastro-intestinal antiseptic, the outcome has been that the supposed benefits were due to catharsis in most instances rather than to any real effect upon the bacteria in situ. Similarly, J. F. Norton, in an investigation made for the Council on Pharmacy and Chemistry, has shown that the value of "antiseptic" and "germicide" soap depends on the soap and not on the antiseptic or germicide contained in them. In fact, ordinary toilet soap and the green soap used by surgeons was more efficient, evidently because the added antiseptics and germicides interfered with the lathering qualities of the soap (Jour. A. M. A., Aug. 14, 1920, p. 478).

The Bethlehem Laboratories, Inc., Preferred Stock. Physicians in various parts of the country have received advice that they have been selected to share in the profits of the Bethlehem Laboratories Inc., New York City. The company claims to control the manufacture of hyclorite, a product accepted by the Council on Pharmacy and Chemistry. These physicians are given an option to purchase four shares of the company's stock for four hundred dollars. The directorate of the Bethlehem Laboratories, Inc., is stated to be composed of business men of Bethlehem, Pa., the president of the General Laboratories, Madison, Wis., a "prominent physician" of Bethlehem, and J. Ray Reilly, Philadelphia, a "prominent Philadelphia surgeon and consulting chemist to several large manufacturing drug concerns." Hyclorite, manufactured by the General Laboratories, Madison, Wis., was accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies because at the time that it was considered, it was marketed in accordance with the Council's rules. The investment proposition which the Bethlehem Laboratories makes to physicians is an insult to decent medical men. When physicians are interested in products they prescribe or recommend, the public does not get a square deal. It is against public interest and a degradation of scientific medicine for physicians to be financially interested in the products they prescribe (Jour. A. M. A., Aug. 14, 1920, p. 493).

Quinin and Urea Hydrochlorid for Local Anesthesia. Quinin is a protoplasmic poison, and tissue necrosis may be caused by strong solutions of quinin salts. That this deleterious reaction actually

The times of treatment in congenital cases is a question on which there should be no divergence of opinion. All will agree that it should be before the child walks. The advantages of early treatment are that the deformity is readily corrected, that the bones have not become misshapen by their faulty position and the correction can be made without unnecessary pain to the patient.

While most of us do not agree with the senior Sayre who said: "I will concede to the doctor who delivers a club-footed baby the right to deliver the woman before he begins treatment of the deformity, but under no condition should he leave the house until he has begun the treatment of the deformed foot."

The ideal time I am sure is when the baby is three months old; four or five casts a month a part, properly applied will serve to correct any case and the wearing of an aluminum shoe equipped with an upright attached to a leg band will serve to hold the foot in the over-corrected position until the child walks, when in a month the cure will be complete.

Tenotomy, if required, should not be performed until the correction of the other deformities is completed. In other words, in compound deformities of the foot the equinus should be corrected last.

In the neglected cases, that is, congenital cases that have been walking with the foot in its faulty position, the correction is more complicated. In many of these cases the operation of choice is the one of rapid correction, manually if possible, and with wrenches when not possible with the hands. These cases of course require an anesthetic. It is much better to make a two- or three-stage operation in the older cases than to severely traumatise the tissues by trying to accomplish the over-correction at one sitting. The foot over-corrected is put up in plaster of paris and the patient permitted to walk on it as soon as he feels like it, which is usually only a week or less. In cases where the tendo achilles has been severed, walking should not be permitted for a period of four weeks.

According to some authorities club-foot cases up to ten years of age can all be corrected without removal of bone. That is, they can be corrected by wrenching and plaster casts. It is a well established fact that the man who does cuneiform osteotomies on children under five years of age is doing the patient a great injustice. While he may possibly succeed in getting a straight foot, it will not be functionally perfect, as it will be under the manual correction method.

I wish to state that congenital club-foot cases are being submitted to cuneiform osteotomy in our own state before the child has walked. I mention this only to condemn it as malpractice of the worst kind. It is unnecessary and does not give the best results and yet men who are specializing in surgery are guilty of it.

The acquired cases present a different aspect. The majority are caused by paralysis and of these fully ninety-eight per cent are due to polio myelitis. The remaining two per cent are about equally divided between injury and osteomyelitis.

In the poliomyelitis cases the importance of prevention of deformity is at once apparent. Still many cases are permitted to go on uncared for and to become unnecessarily distorted. Why is it that these unsightly deformities are not cared for early? Again the unpleasant words—ignorance and neglect. If these cases were properly treated from their incipency the results would be much better. We all know the importance of keeping limbs straight. Let us apply that knowledge and at least be fair to our little patients and let them have the main chance as they are already terribly handicapped.

The wearing of braces and appliances by the poliomyelitis cases will keep the limb straight and do more than all the medicine or electricity in the world to assist in the development of the crippled muscles. It is now a very well established fact that regeneration in poliomyelitis cases is completed in three years. Formerly, that is prior to 1916, it was generally believed that regeneration continued for even as long as five or six years. This fact then determines the time of election for operative treatment of the poliomyelitis cases. One would be very

wrong to operate before the period of regeneration had passed, for the reason that it is impossible to correctly plan an operation until we know just how much muscular imbalance we have.

On the other hand, it is wrong to delay reconstructive measures beyond the period when regeneration has ceased.

The proper handling of poliomyelitis cases, in short, consists of prevention of deformity by the use of braces and other appliances with the general health carefully looked after for a period of three years when in the vast majority of cases regeneration has ceased. Then we come to the operative stage. In this field there are many operations, some good, some not so good. In a general way the operation of choice is the one which promises the most stable foot. It matters not whether it be a simple tendon transplant or one involving extensive bone removal. We should always choose the procedure that promises the most stability and the nearest approach to the normal foot.

Practically all poliomyelitis cases can be made to walk very creditably by operative procedures. In the case of the flat foot, a very common deformity, the introduction by Doctor Whitman of astraglectomy and the orthodesis operation of Jones have greatly improved previous methods. Either give a good foot.

If we will make it our business to be personally responsible for the deformed foot cases in our own practice, to see that they are early and properly treated, a large part of our problem will be solved.

DISCUSSION.

Dr. W. K. West, Oklahoma City: I differ in my treatment of club-feet, especially from that stated by the essayist. I will outline that treatment and try to tell you why. He pointed out that he waited three months and then with an application of four or five plaster casts he attempted to correct, one month apart, the deformity. I believe there is a tendency all over the country to begin earlier and change the cast more frequently.

I recently attended the clinic of Dr. Ginsden in Milwaukee, who begins his treatment in case he gets the child a week after birth, changes the cast every five days until the deformity is corrected. That may be a year, he says. His method is to coat the foot with varnish, and then just put on a roll of cotton bandage, long sheet wadding, and correct it the best he can with no pain, no stretching. Then, he gradually changes that every five days until it is corrected. In this way, by using the varnish to make the cotton stick to the leg, he does not have to put it above the knee. Therefore, he can begin his treatment real early. One of the objections to putting the cast on high up is on account of the child soiling the cast, and the chafing of the skin that follows. I have not adopted the method of using the varnish yet. I do not believe it is entirely necessary if you change the cast every five to six or seven days. I believe if you change it every week on the same day—which I do, because the mother can easily remember it that way, you do not have to run the cast except from the top of the toes to below the knee. They speak of cases where the old authors advised placing the cast above the knee, and those cases they expected to leave on five, six or eight weeks. That was the old treatment.

Just one word in regard to the way we should accept the teachings of the great men on this subject. That is, we have the old school of Ward D. Spurgeon, who believes the whole deformity should be treated as far as possible with splints and braces. We have the other school that believe that operative technic will shorten the time of recovery. Then, what will we do in that case when we read on one hand of a man like Dr. John Redlong, who says it all should be corrected with braces, and of a man, for example Albee, who is a great believer in operations. I think that both classes, or men of all those classes are very sincere in what they teach, but I believe that the great trouble in this connection is this, that if John Redlong can correct cases with braces and casts best, and Dr. Albee can correct his cases best with operation, we should choose the method which we are better suited to do. You know there are men who are better with operations and that there are men who

are better with splints and casts. Then, with the patient in your hands, it is up to you to decide which you are best at, which will give the best results.

I want to emphasize one point that was brought out to me especially by Dr. Orr, editor of *The Orthopedics Journal* recently, in advising against the practice of the general practitioner in case he does not know as to a correct procedure in curing these cripples, not to tell them that nothing can be done for them.

Dr. Earl D. McBride, Oklahoma City: I think one of the most shameful shadows upon the physicians of America today is the neglected cases of crippled children and crippled individuals that are in our state and in our communities. This was well brought out by the essayist and I simply want to express my gratitude to the essayist for the tribute he has paid to those who take care of such cases, and for the work that is being put on by some of our greater men trying to correct the idea that nothing could be done for such cases.

I agree with Dr. West that early treatment should be given congenital club-foot. I start in as early as three weeks, three or four weeks, to correct the congenital club-foot. I disagree with the essayist that it can be corrected in three or four applications. This is another case of where many cripples result from inefficient treatment, because it is generally thought that only a few applications of corrective plasters will cure the congenital club-foot, and hence they are not followed up by the proper brace treatment. After four or five years the child walks about with a partially corrected foot, and we find that the patient believes that is all that could be done; whereas, if the patient had been treated with a brace long enough in an over-corrected position, that foot would be entirely corrected and as straight as any normal foot. We can apply the same principle as was brought out in the preceding essay regarding follow-up treatment and care of our patients surgically after the condition has been treated in these cases.

I just want to mention a few other things regarding braces. Gentlemen, we have several brace makers in this state. I would not throw any shadow upon the efficiency of any individual in his absence, but I want to say to you that there are hundreds of braces put on children that are absolutely worthless, and worse than if they had been left off entirely. I can mention one example. In many instances the brace for club-foot is put on the outside of the shoe with a steel belt underneath. Now the average physician who does not make a special study of braces and of congenital deformity in orthopedic cases will feel that the brace maker knows what he is doing when he makes the brace, so he takes his method of making a brace and accepts it. Now, if you wrote a prescription and the druggist filled it like the average brace maker will fill your prescription for a brace, there would be a lot of dead patients around before long. So many people think their children are getting efficient treatment, when as a matter of fact they are being more crippled than ever with inefficient braces. The construction of braces is as important as the filling of a prescription, and the prescription for a brace should be written with an eye to mechanical principles which are absolutely correct mechanically and surgically.

Another thing I want to emphasize is this; as to surgical treatment for infantile paralysis deformity. There are too many cases operated before the entire amount of regeneration occurs. This has been brought out by the essayist also, that it is about three to four years. Bones and muscles in a child following infantile paralysis when the child has become deformed should not be cut until an allowance has been made for full regeneration, and this is something that is not always thought of. We see the foot deformed, perhaps, in infantile paralysis. The foot will be turned in, the peroneal muscles will be paralyzed, the tibialis anticus and the posticus are also involved. As one man said awhile ago, the tendons of the foot will become straight; the foot will become straight if you give the patient a little opportunity to straighten the foot by manipulation. Perhaps the most that will be required will be patience. By the way, I want to mention another thing. Too many braces are put on the foot to cure the deformity. This is absolutely a mistake.

The Chairman: I would like to take a few minutes to discuss this myself.

as to the time of treatment of these congenital cases. I think there is a happy medium, and I agree with the essayist in the early treatment; but what constitutes early treatment? I do not think it is necessary in the treatment of these congenital cases to begin with the application of plaster casts within the first few weeks. I do feel that these feet can be manipulated. An intelligent nurse can be instructed in a manipulation of these cases in the early weeks after birth so that if the time comes when you find it necessary to put on a restraining plaster cast you can put this foot up in an over-corrected position at the first application of your plaster. An intelligent mother can be instructed in the manipulation of these feet, even to the extent of stretching the posterior tendons so you can keep the little foot in the proper position.

Another thing, in the early treatment of infantile paralysis cases, when is the time to begin treatment? I take the position that the proper and correct time is when the child is suffering from the infantile paralysis, or the acute attack. That is the time that a competent orthopedic surgeon should be called in to assist the general practitioner. He has made the diagnosis of infantile paralysis, and he knows that sooner or later some of these muscles are going to show evidence of paralysis. Then is the time he can begin a proper treatment of these cases and prevent any deformity that tends to occur. If the deformity has occurred, I do not favor those who advocate early operative procedure. I do feel that these cases can be treated along for a period, not only of months, but years, by proper application of plaster, and having corrected the deformity by the use of well fitting braces, because many of these muscles will regenerate, and in the early history of these cases I defy any one to pick out the muscle that will regenerate and the one that will not, or even to make a proper selection of the tendon to transfer.

I am now treating a case in which it was advised that an immediate operation was necessary. This little fellow was horribly deformed, with the leg nearly flexed upon the thigh, and the feet altogether turned in, and they were advised they should have an immediate operation and transplantation. It may be possible that he knew which tendons to transplant. I did not. He is now walking on crutches. I expect to continue this line of treatment for a period of several years before I undertake any operative treatment in this case.

The early treatment, I think the earliest possible time to begin in the congenital case is the correct time. As to the effective form of operations, I want to plead guilty to having done these bone operations in young children; in the light of insufficient knowledge. I do not expect to do them again, because I have learned these deformities can be corrected with proper manipulation and by proper application of restraining braces. The bone operations should be deferred until the child has reached the age of possibly ten or twelve years.

Dr. V. M. Gore, closing: Mr. Chairman, I am very grateful for the discussion that my paper has elicited, and my only purpose was that we might provoke some discussion, and by that encourage earlier treatment, and especially treatment of the cases that are now being neglected.

In operating on congenital club-foot cases, I think a good many men lose sight of the fact that the foot is normal except for position, and that if we cut out bone tissues, or if we unnecessarily cut fascia or tendons in order to swing the foot back to a straight line quickly, we are doing something that is wholly unnecessary, and we are not giving the patient the best chance. Of course the criticism that probably the treatment should be begun earlier is perhaps true, but in view of the fact that so many cases are not being treated at all until they have walked, I think if we could get all of them treated, or the treatment begun by the time they are three months old we would accomplish a great deal.

As to the number of casts, of course that was only an approximate estimate as suggested in my paper, and the individual case will vary. But the treatment, of course, the primary part of it is the over-correction, whether it is two casts that over-correct it or twenty, and unless they are over-corrected, unless the child walks on it in an over-corrected position, the cure will not be complete.

OBSTRUCTION OF BOWEL DUE TO MECKEL'S DIVERTICULUM.*

ALONZO P. GEARHEART, M. D.

BLACKWELL, OKLAHOMA

Meckel's diverticulum, the remains of the omphalomesenteric duct of the fetus, is situated usually within the terminal three feet of the ileum, though it may occur anywhere on the small bowel. It is found in about two per cent of all bodies, but more frequently in the male. It may remain potent in any portion, or may present merely as a fibrous band.

Its importance, surgically, arises partly from the fact that it is usually a blind tube which contains all the coats of the bowel, including lymphoid follicles, and is most often lacking a mesentery and an adequate blood supply. This structural peculiarity predisposes to inflammation as does the appendix. But the chief interest lies in the tendency of Meckel's diverticulum to cause intestinal obstruction through kinking or knotting of the intestine, especially if the distal end is fixed, or through invagination, or intussusception of itself or of the bowel.

Halstead estimated that about six per cent of all cases of intestinal obstruction are caused by Meckel's diverticulum. The symptoms of a pathologic Meckel's diverticulum in any case are either inflammatory or obstructive, or both, depending on the sequence of events. In the inflammatory cases, differentiation from appendicitis should be attempted. This has rarely been possible in the past, but with careful study of reported cases, we may become more proficient in the diagnosis of this serious condition.

Dr. J. D. Crozer Griffith stated in the *Journal of the American Medical Association* of May 3, 1914, page 1628, that "the lesion has never been correctly diagnosed during life." On one of our cases here with reported diverticulitis was at least an alternative diagnosis.

In the main, the symptoms of inflammation of a diverticulum are those of inflammation of the appendix. Pain and tenderness are present, but it is to be noted that the seat of these symptoms is apt to be higher up in the abdomen and nearer the navel than in appendicitis. There may be the same history of previous milder attacks. Muscle spasm, nausea and vomiting, fever and leukocytosis are present in severe cases. Constipation is the rule, but diarrhea is often seen, and bloody stools were present in a number of cases thus far reported. Tumor may be palpable or dulness on percussion may be found. The symptoms of a paralytic ileus may supervene as in acute inflammation of the appendix with localized or diffuse peritonitis. Truly the differentiation from appendicitis is difficult, or impossible, but there is one consolation; the treatment of both conditions is similar, surgical aid being perhaps the more urgent in diverticulitis.

In cases of intestinal obstruction due to Meckel's diverticulum, whether as a result of strangulation or invagination of a portion of the bowel, we have equal difficulty in differentiating this from other forms of intestinal obstruction. A study of reported cases, as summed up by Gibson and Hertzler, *American Journal of Medical Sciences*, Sept., 1913, show that obstruction due to diverticulum occurs typically in younger individuals and about four times more frequently in males than in females. Pain, usually intermittent and colicky, is confined as a rule to the region of the navel. Some tenderness is usually present. Rigidity is rare, except in late cases complicated with secondary localized peritonitis. Vomiting and meteorism are very prominent features. Free fluids may be found in the flanks. Bloody passages occur rather frequently in the cases due to invagination of the diverticulum or the bowel, as does palpable tumor. The site of the tumor is most frequently in the ileocecal region and the right side of the abdomen. Normal or subnormal temperature is the rule, unless local peritoneal inflammation has followed impairment of the circulation of the bowel, in which case, tenderness

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and rigidity are present. Hernias of the external openings of the abdomen can usually be excluded. The possibility of an incarcerated hernia returned en masse should be remembered. Diaphragmatic hernia with obstruction can usually be detected by careful percussion and a radiographic examination. Other internal hernias will need to be considered. Intussusception, apart from Meckel's diverticulum, usually occurs under two years, and in children whose digestion and nutrition is below par. The bloody stools of intussusception due to Meckel's diverticulum are rarely accompanied by tenesmus, while those of dysentery are so accompanied. Acute abdominal colic is usually transient in character. Deformity of the navel or the history of an umbilical fistula may speak for the possibility of a Meckel's diverticulum as the cause of the obstruction.

Diverticuli of the sigmoid are not infrequent by any means, and when inflammations of these finger-like projections take place, we have a condition similar in some respects to Meckel's diverticulitis with the exception that the pain in sigmoid diverticulitis is in the left ileac region, rarely produces strangulation and is usually a disease of the aged, although it may occur at any age.

To induce and stimulate investigation of the diagnosis of these grave conditions (hitherto too often grave in more senses than one) and in hope that this brief review may encourage the study and report by others of disease due to Meckel's diverticulum, we present the history of three cases operated upon at the Blackwell Hospital during the year of 1915 and 1916.

Case 1. R. G., school boy, age thirteen years. Previous history gives nothing to indicate any abdominal trouble. Had been unusually well, having no illness but the usual children's diseases. On Sept. 10, 1916, while on an auto trip with his grandfather, he was seized with severe abdominal pain. Was taken to a physician in Ponca City, who gave him a hypodermic of morphin so he could return to his home in Blackwell. The grandfather was told to call a doctor as soon as he reached home (3:30 p. m.), but the boy being easy as a result of the morphin, a physician was not called until 8:30 p. m. He told the grandfather that the trouble looked like an appendicitis, and left some infants' anodyne as a placebo. Because the boy did not get the expected relief, another doctor was called at 4 a. m. At this time, temperature was normal but the pulse rapid; pain in abdomen was severe and the facial expression was ashy and tense. He was given salts which were at once vomited. As there had been no bowel movement since the previous morning, a rectal injection was given but without results. This was repeated several times, nothing passing except a little flatus. The pain being severe, another hypodermic of morphin and atropin was given. This for a time gave him some relief, but the pain and cramps became so severe that the doctor was again called at 9 a. m., Sept. 11.

He told the grandparents that the boy was in a serious condition, that he thought he had an obstruction of the bowel, from some cause, possibly an appendicitis. He gave another dose of morphin and advised an immediate operation.

In this particular case the attending physician recognized the gravity of the patient on account of the condition of the pulse and meteorism, which existed in a large degree. Had the pulse been in better condition and the meteorism less marked, in all probability he would have continued the morphin to ease the pain and injections to open the bowels, for several hours longer, and the patient would have died on his hands before 12 o'clock the following night. Opium is a great boon to humanity, perhaps the best which medicine has given to man, but we must remember that it disguises the symptoms and leads fond parents and friends to build false hopes of early recovery only to be shattered and torn when the true condition is ascertained, and it is then too late for operative measures to avail. I feel assured that six hours more of delay would have rendered the case hopeless. Without intention of being dogmatic or dictatorial, I would recommend the general practitioner, who almost invariably has the first call in these cases, to follow the course of this physician reported in this particular case, in so far as morphin to relieve pain and spasmodic condition and injections to relieve bowels, but he is

allowing his patient to sink into a very perilous condition if he persists in this treatment too long. Of course no arbitrary length of time may be fixed as safe, but I would suggest that four or five hours continuous pains and cramps are most generally caused by grave conditions demanding operative interferences.

I saw this patient about 10 a. m., and an examination revealed the following:

Temperature 97.2-5, pulse 140. He appeared seriously ill, had a worried, anxious look, and continually wanted to have a passage but without results. As he lay in bed he kept his legs flexed at right angles and could not stay in one position. Tongue had a brown coat, peristalsis was active, abdomen rather full and marked board-like rigidity over the entire surface. During intermissions of pain a tumor about as large as two fists could be felt just below the umbilicus which extended over to the right side. A diagnosis of obstruction of the bowel was made, the cause being either an intussusception or an appendicitis. Operation was advised and patient was at once removed to the hospital.

Operation began at 2:40 p. m. The pulse at this time was 120, temperature 97.6-10. Pulse was slower than it had been, possibly as a result of the morphin. Abdomen was opened below and an inch to the right of the umbilicus. When incision was made, a great quantity of dark fluid escaped, which was mixed with a lot of flakes or fibrin. As the opening was enlarged a coil of black gut which was greatly distended, appeared and when the whole amount had been delivered it stood out like an inflated bicycle tube. On examination, it was found that the part of the tube remaining in the abdomen was fixed at the ileocecal junction. On further examination, it was found that a projection from the ileum was adherent around the gut at this point. This was separated and delivered and proved to be a Meckel's diverticulum about four inches long and an inch at its base, located on the ileum apparently two feet above the ileocecal junction. A distinct depression or groove was seen about the ileum at the ileocecal junction, where the diverticulum had been attached, and the gut was black from this point up to above the attachment of the diverticulum. All the mesenteric vessels supplying this portion of the intestine was thrombotic, making the removal of about two and a half feet of gut necessary. The intestine was resected, the opening in the colon and ileum closed and a lateral anastomosis made between the lower end of the ileum and the colon about three inches above the ileocecal opening. The appendix was not involved but was removed, and the abdomen closed without drainage. Patient left the table at 4:00 p. m., with a pulse of 160, and for about the next five days the outcome looked grave. Chart shows that the pulse varied from 120 to 138 during the first twenty-four hours. A saline solution by proctoclysis was given during most of this time. At 10:15 p. m. he had 1-12 morphin with hyoscine, and the same amount was repeated at 1:45 and 5:20 a. m. Pituitrin was also given three times during the first twenty-four hours. Bowels moved several times during this period and considerable flatus was expelled. During the second twenty-four hours, his condition remained about the same with one hypodermic of 1-8 morphin and 150 of atropin. The third day his condition was so unfavorable that little hope was entertained for his recovery. He seemed to be in a state of collapse. During this time we gave him about one and one-half pints of salt solution subcutaneously and our records show that in a few hours after this his condition became better. His pulse steadily improved and his recovery from this time on was marked by only one bad feature, a rather extensive infection of the incision which left him with a large ventral hernia.

This hernia was repaired June 4, 1917. The anastomosis between the ileum and ascending colon was found in good condition, and has so remained to this time.

Case 2. Mary Thelma, three years of age, was admitted to the Blackwell Hospital, December 31, 1915, at 9:30 p. m. Family and past history negative except that the child had always been delicate. Present illness began the day before, December 30th, at 4:00 o'clock p. m., when she was suddenly taken with severe vomiting and pain, which gradually increased in severity until she would

double up and scream. The mother thought the pain seemed to be in the middle of the abdomen.

Dr. F. B. May, of Hunnewell, Kansas, was called and repeated attempts were made to move the bowels by rectal injections but to no avail. The doctor said the abdomen was moderately distended, very sensitive to pressure and during intervals of pain he was sure he could feel a mass about the size of an egg below the navel. All symptoms increased in severity, borborygmi were especially noticeable but without passing any gas. There was no blood or mucus in the stools, nor did she frequently strain at stool; in fact constipation was absolute.

A diagnosis was made by Dr. May, of an acute intestinal obstruction, possibly due to an intussusception and an immediate operation advised.

On admission temperature was 100, pulse 158, child in convulsions and in a very critical condition. Just enough chloroform was given to control the convulsions and preparations made for an immediate operation. Abdominal examination showed the tumor, which felt rather hard, just below the navel. Operation began at 10:00 p. m. and ended at 10:45. Abdomen opened at mid-line, intestines found considerably distended with gas, appendix examined but not removed.

The ileum at the cecal junction was picked up, this portion was flat so we knew the obstruction was above this point. While attempting to follow this up we noticed a sudden rush of gas and fluids as if the obstruction had suddenly given away, and this evidently is just what happened, for on bringing up this portion of the bowel we discovered a Meckel's diverticulum located about eighteen inches above the caecum. This, we decided, was the cause of the obstruction, since it, with the part of the bowel immediately above and below its attachment, was deeply engorged, and looked as if it had been strangulated, in some manner. The diverticulum was removed, abdomen closed and the child made a rapid and uninterrupted recovery, leaving the hospital in about ten days.

We were unable to explain to our own satisfaction just how this obstruction was produced. Since then in looking up the literature we have read Hertzler's and Gibson's article on Invagination of Meckel's Diverticulum Associated with Intussusception, published in the American Journal of Medical Science, September, 1913. It appears to us that possibly the diverticulum was invaginated and a part of the gut telescoped; in fact, this seems the most plausible explanation.

Case 3. Floyd W., farmer, age 28, admitted to the Blackwell Hospital, August 28, 1916. Patient gave a history of the usual symptoms of a chronic appendicitis, extending over a period of about three years. The attacks, which occurred at irregular intervals of from two weeks to three months, seemed to be dependent upon the character of the work he was doing. He noticed that if he was engaged in work which required lifting, this would almost always bring on pain. If the lifting required considerable effort, he would be forced to sit down or lie down for a few minutes before he could continue his work. Although, at no time was the pain so severe as to require an opiate, he was frequently laid up for several days afterward. The attacks were characterized by pain, nausea without vomiting and localized tenderness. The pain and tenderness, so the patient says, was always just below the navel and at no time (we examined him many times) were we able to find any pain or tenderness over the region of the appendix. It was for this reason that an operation was not advised earlier; it was difficult to be satisfied that this was really a case of chronic appendicitis. This, however, was the pre-operative diagnosis, but the probability of it being a Meckel's diverticulum causing the trouble was thought of and the patient so informed. This led us to make an examination of the bowel higher up when we found what looked like a normal appendix. The appendix and diverticulum were both removed and the patient left the hospital in ten days. He has since been free of his trouble.

DISCUSSION.

Dr. McClain Rogers, Clinton: Mr. Chairman; This paper on Meckel's diverticulum is of particular interest to me for the reason that in my experience I

have seen very few cases. His report of the three cases is very instructive to me, and he has pointed out the fact that these cases are not often diagnosed. I have never diagnosed a case. I have had a few cases of diverticulum. I have seen a number of diverticuli in the ileum, which I take is really a hernia upon the giving away of a muscular or fibrous coat. I recently saw, in operating for other troubles, a diverticulum in the ileum five inches long, bag just inverted like an appendix.

About two years ago I saw a case of Meckel's diverticulum undiagnosed. In diagnosing after I was in the abdomen, I thought it was a calcium deposit about the region of the right ovary. I made a little slit into the peritoneum and thought I would just squeeze out the calcium deposit, but I made my slit a little too deep and squeezed out some dry hardened matter, and then I saw that I had a diverticulum and made my dissection, and of course I had to do drainage. His paper on these other cases is very instructive and interesting. There is very little in the literature, unless you get some special work concerning diverticulitis. I have never seen an obstruction from a diverticulum.

Dr. Fred Y. Cronk, Tulsa: Mr. Chairman; I just wish to say a few words, not so much in discussion of the paper, as to report an interesting case. I have not observed an obstructed case, but about four years ago a young child was brought into the hospital, about three years old, with a hernia on the right side, it being a male child, an inward hernia. The symptoms were a little different, perhaps, from the conditions which presented themselves at that time. There was no fever, no obstruction, but the child had suffered attacks of pain for the last two or three days. On examination I came to the conclusion it was possibly the appendix which was slipping down into the hernia sack. While the hernia was being repaired, I fished around and struck what I thought was an appendix, but it proved to be a diverticulum about three inches above the ileocecal valve, about an inch and a half long, possibly the size of your thumb. Evidently that was what had been slipping into the hernia sack. The appendix appeared to be perfectly normal. The diverticulum was resected and the child made a very nice recovery.

I just mentioned that for the reason if there are extra symptoms or symptoms which we cannot quite account for with hernias and in any condition where we come in contact with the abdominal cavity, it is wise to fish down just a little deeper. This paper has been very interesting to me, and I think from the standpoint of diagnosis we should all look into these cases very carefully.

Dr. Fred Clinton, Tulsa: Mr. Chairman: About four years ago we had a patient that gave us a great deal of trouble, and from the diagnosis, a typical left sided appendicitis. The operation proved it to be diverticulitis.

Dr. S. W. Wilson, Ardmore: The Doctor brought out the point that pain and vomiting are symptoms which should be kept in mind always in dealing with these cases. I believe that any case of mechanical obstruction of the bowel should be diagnosed absolutely in the first twenty-four hours. Take the appendix in which you most commonly have an adynamic obstruction, there is a train of symptoms that go along with it by which you can hardly be mistaken. They are, first pain, nausea, vomiting, little temperature, and leukocytosis. With the ileus you do not have any leukocytosis at first. You do not have any temperature. You have a constant vomiting as the case goes on. In appendicitis you only have two to six explosions of vomiting. With your ileus you will have a constant vomiting. The mother will tell you practically a diagnosis of an intussusception of a child when she sees you. She will say, "Doctor, that child was out on the side walk playing, and all at once she became suddenly pale, cried out with an awful pain, and has been vomiting and screaming with pain ever since." That is practically your symptoms of intussusception.

Right along this line I want to warn you about the hypodermic with acute pains in the belly. To my mind there has been more patients who have lost their

lives by the doctor giving a hypodermic hurriedly before he makes a diagnosis, especially in this one particular, the case of the ill of the belly. The hypodermic will relieve the patient temporarily for eight to twelve hours, and after you have come back and the family is very anxious, you will say, "Well, we hope this is not very serious," not paying any attention to the constant vomiting, give another hypodermic and let them go for twenty-four hours. Then, when you see something has to be done, you take the patient to a surgeon, and it is then absolutely too late for that surgeon to do the patient any good. So, I warn you about the hypodermic. Let them have the pain and they will come to the operating table much more quickly and right away your surgeon can do the patient more good. But remember always that in the ileus it has a train of effects, vomiting as long as time goes by, with a number of distressing symptoms, absorption of toxins, increasing pulse rate, and, as I say, I believe you should make, after the second visit anyway, practically a clear diagnosis of your case.

Dr. Gearhart, closing: There are just a few things in the diagnostic notes as based on the cases reported which are of possible interest. The localizing of pain and tenderness, and that is not so often at McBurney's point as somewhat higher up and to the right, or it may be noticed in some other entirely different region, and an area of puffiness, firmness and firm resistance in this region, that is, the region of localized pain and tenderness, and an absence or slight degree of matterism, at least early in the attack, that is, to begin with, a presence of blood in the stool or vomited matter, and the early existence—this is one thing everybody speaks of, the early existence of umbilical fistula or some malformation elsewhere in the body, the pain beginning about the navel. These are the chief things in the diagnosis of obstruction in the bowel as a result of Meckel's Diverticulum.

REMOVAL OF ASTRAGALUS IN PARALYTIC FEET.

The end-results in 217 cases of infantile paralysis in which the astragalus was removed for a paralytic condition of the foot, resulting in lateral instability and various other deformities which are properly classified are given by James Warren Sever, Boston (*Journal A. M. A.*, Oct. 30, 1920). Whitman's operation was performed on 217 feet in these cases by eight different surgeons, on feet varying from those completely paralyzed to those in which only one muscle was weak or gone. The object in all cases was to restore either symmetry or stability. This, Sever believes, it has failed to do in many cases. As a result of this analysis Sever feels that an astragalectomy is not an operation to be advised for any foot showing lateral instability as a result of the paralysis of one muscle group alone. The lateral instability at the ankle may be averted, but more subsequent deformity may develop. It is as good an operation as any in feet which are flail, or those which have only one muscle group left. In the presence of toe flexors, varus is likely to develop later and lead to a bad weight-bearing position. The best results he has ever seen are in those feet in which there was good muscle power before operation, and when after operation there was good motion between the tibia and os calcis, and good weight-bearing positions of the foot. In the latter cases it should never have been performed. It is not an operation that will cure a limp, or even improve one as a rule. It is not an operation to be advised lightly or invariably for foot deformities, but should be performed on older children in selected cases.

GOITRE—SOME OBSERVATIONS.*

EDGAR E. RICE, A. B., M. D.

SHAWNEE, OKLAHOMA

During the last past few weeks I spent ten days at the Mayo Clinic. One day's list of new patients, numbering 254, contained 62 goitres. I saw many operations there for many forms and stages of goiter and their results prove that these operations were done according to the most approved and successful methods by some of the best operators in the world. and we always find them extremely courteous in explanations and suggestions at this Clinic.

I spent a week in various Chicago clinics and saw much good goitre work there. I attended the meeting of the A. M. A. at New Orleans and heard the orations and discussions of the symposium on goitre at the opening meeting of the section on surgery. During these weeks I have read much goitre literature. And after this opportunity for study I have changed my mind so often that now, as Dr. Robert Morris so recently said, I would have no respect for any one who believed anything I said on this subject. But Dr. Will Mayo paraphrased the above remark by saying that "The fact one changed his mind frequently showed he still had a mind." So I trust there is still hope for me.

I find it exceedingly interesting and instructive to study the embryology, anatomy, histology, physiology, and chemical physiology of the thyroid apparatus. In fact it is absolutely necessary to have a rather intimate knowledge along that line if we are to get results from treatment.

The importance of leaving a portion of thyroid gland, and at least most of the two to five parathyroids, in thyroidectomy, is universally known. Although total parathyroidectomy has been done on rats, trout, etc., experimentally, without causing tetany. However, it is a wholly impossible operation without grave injury to the thyroid.

Factors which determine the departure of the thyroid and parathyroid glands from health: 1. The influence of defective and improper food supply. 2. Residence in insanitary surroundings. 3. Influence of bacterial and other toxins. 4. Influence of infection and other diseases. 5. The influence of intestinal toxemia 6. Consanguinity and heredity. 7. Psychic influence.

These have to do with endemic goitre, congenital goitre, endemic cretinism, hyperthyroidism, tetany, simple toxic goitre, myxedema and Graves' disease. The influence of intestinal toxemia is very important as shown by the influence of intestinal antiseptics in the treatment of simple goitre and the almost phenomenal cures of various forms of goitre by the short-circuiting operation of Lane and his followers. It is exceedingly important that we make more careful examinations of every case for foci of infection and that we recognize the importance of their early removal. That we make a routine Roentgen-ray examination of the gastrointestinal tract by the screen method as opposed to that of photography. We should make a thorough study of the individual and we should abandon the half-hearted policy of physicians with regard to the management of this malady. A large percentage can be cured by medical and hygienic means. Some by surgical means aside from thyroidectomy, namely, the corrections of such as chronic appendicitis, chronic gall-bladder inflammation, chronic septic tonsillitis, gastrointestinal stagnation, or other disorders which may obviously be benefitted by it. My personal experience with thyroidectomy has been exceedingly satisfactory as has those of my friends with whom I am more or less intimately associated. Ligation and subtotal thyroidectomy are surely gaining in popularity, as results are proving more satisfactory.

I am under special obligations for many of these thoughts to McCarrisem, of the English Army, whose excellent work I have recently read. He claims that

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at least 50% of cases will be cured by ordinary medical means, that is to say, rest and other hygienic measures, efficiently employed; and that 80% of these remain permanently cured, and then he gives figures from the great surgeons of the world to show that the average percentage of cases of all these operations put together is 60% and states that this is not a sufficient improvement on medical treatment to justify an operation—mortality which in the hands of 26 skillful surgeons ranged from 13-10% to 30%. But I feel that with the improved technique and general knowledge obtained by more thorough pre-operative examinations during the two years since this opinion was given, throws the balance in favor of ligation and hemi-thyroidotomy.

DISCUSSION.

Dr. Curt von Wedel, Oklahoma City:

In my treatment of the goitre I am rather not radical, but rather of the conservative type. I believe that these cases, as Dr. Rice states in his paper, should be put to bed, and that we should be conservative in our attack. One thing has been overlooked by a great many of us in doing this work, namely, the factor of external or so-called foci infections in goitre or thyroid therapy. There are many of these cases which will call for the removal of deeply infected teeth, infected tonsils, or complete rest in tuberculosis or conditions of that kind.

You are all probably familiar with the work of Getsch of Johns Hopkins on adrenalin test. I think each case should be subjected to the adrenalin test. My usual procedure is rest until the pulse is down to 100 or less, and then I do a single or double ligation under local anesthesia, and allow them to rest from a month to six months. The only difficulty in that of course is many patients acquiesce and won't come back for the completed work.

As Dr. Rice has stated, there have been many different opinions, but I think that generally most men are using a more conservative type of work than the radical; ligation and doing partial removals. One of the most forcible lessons in this way that I had was something like fourteen years ago while I had my service in Philadelphia Hospital. They were commencing to do thyroidectomies on a large scale and our mortality was large. I am not able to quote statistics, but I believe fully a quarter of these cases died. They went in without preparation. They were charity cases, and you all know in a large hospital how these things are looked after. They take them in the general clinic and operate on them. But under our procedure of rest, partial ligations and partial removal thyroid surgery has made marked improvement.

Dr. Fred Clinton, Tulsa: Mr. Chairman, I am not able to present much light upon the treatment. I wish, however, to make one point which greatly impressed me. Some two years ago in a trip along the Pacific coast up as far as Vancouver, British Columbia, I almost felt as if we would get goitre before we got home. It seemed that every third person nearly had a goitre, and I was very much impressed with, and the observation and treatment carried out by at least a few of the men along the coast up to and including Vancouver was much the same as that which has been advocated by Dr. Hefner, in recognition of the fact that possibly the disease is more or less infectious possibly due to some unknown infection in this so-called mountain water, which lead them to a more conservative course than previously practiced, that is, rest in bed and recognition of an attempt to interpret the individual and treat them, treat the human being as well as the disease.

Dr. Ross Grosshart, Tulsa: As the paper has announced, that word "goitre" as we interpret it would mean a number of conditions that exist in the thyroid gland. The first thing we have to take into consideration is that we have cases that are born without a thyroid, which you all know the symptoms of. Then we have cases where we will have a complete atrophy that destroys the thyroid se-

cretions, the symptoms of which you all know. Those born without a thyroid are on the same principle, I deem, as a child that is born without an ear, or any other deformity. The one has had a normal thyroid condition, and one in which an myxedematous condition following is due to a secondary change that has taken place, and an atrophy in the substance of the organ, while the organ itself may present a tumor.

Summing up the conditions and the study of those, I am firmly of the opinion that that disease we call hyperthyroidism that varies in many degrees from a mere tumor to that of tachycardia and bulging of the eyes and all of the other distressing symptoms, is invariably due to an infection. The process that takes place here is the same as it is in any other granular structure. As the doctor has outlined, it may come from any foci in the body, none are exempt, while the chief ones are teeth, throat and the sinuses. You first have an infection that causes an acute hyperthyremic condition of the gland which causes it to swell of its own accord, and due to the natural process of the hyperthyrea, and also causing the gland, by having an extra amount of blood supply, to produce an extra amount of thyroid extract, and it is the action of this extract upon the central nervous system that causes the symptoms that we get of the form of tumor, etc. Therefore, I am not in favor, unless it is impossible after research and rest, of removing the foci infection of the muscles of the thyroid gland, of any operative procedure whatever. In a great majority of these cases, if you will make a close observation of them before, and remove the foci,—and if you could remove all the foci, I believe every one of them would get well without any surgical interference. Of course, if the gland has gone on through the acute stage of infection, the hyper condition existing, and in changes to a colloid degeneration this condition goes on until you finally arrive at where you have an enlarged tumor and a myxedematous condition, or an enlarged tumor that is causing pressure symptoms, then you have a foreign body to deal with rather than an active body, and then it will have to be interfered with the same as a tumor in any other part of the body that is causing distress.

But let us get to the bottom of this condition, and as Dr. Clinton has said, we know that there are certain places in Canada, the United States and in Europe that we call goitre zones. There has never been anyone yet who has isolated the infection or the toxic condition that is causing this trouble, but it is well to know that these patients are coming in contact with something in that locality that is going through some of their lymphatics causing inflammation and producing the goitre. As I remarked, there are some places in the world, especially in Europe, that on one side of the river we get a goitre zone, and on the other side we have none, and a patient on this side of the river who has a goitre will move probably a distance of not more than two miles and isolate themselves in the other zone and will get well of their goitre when they get away from this isolated infection. There is some specific infection in goitre zones that exist that causes these people to have goitres.

There are many infections. I think that any infection that will cause other glands to become enlarged and take on an acute condition, as we get from focal infections, that will produce the same condition as in the thyroid.

I am not going to, and time will not permit me to go into a discussion of it, but the subject of granular secretions and internal secretions is the next study for doctor, surgeon and pathologist to ferret out. The foremost thing to keep in mind is that these conditions are practically all due to focal infection, and as I made a remark in a little paper I read before our county society, that the time is coming that when we knew and could produce the internal secretions of the different glands of the body in our laboratories or from extraction from the animals as having removed the foci of infection that causes the destruction of all of these glands, this granular condition and the cause of arterial sclerosis, that when we have discovered the active principle of the internal secretions to the point that we can supply them in an emergency or to act as a counterbalance to those glands that are over-secreting, we would have produced a condition in man that his longevity would be extended to probably as old as Methuselah; that we will be able to grow the child

to any known size mentally and physically that would be prescribed as a normal man or woman at the time, if we have come to the point wherein we can have a lethal dose of the active principle of internal secretions on the same basis that we know what the lethal dose of morphin or quinin is.

Dr. Le Roy Long, Oklahoma City: Mr. Chairman, about two years ago in Lane's clinic in London I was told that Lane's kink was the cause of all diseases of the thyroid that we are operating on this side of the water. They were not pointing to the abdomen as causing thyroid diseases at that time. Now they are pointing to the abdomen as the cause of thyroid diseases. We may have to recognize something in the way of Lane's kink before we get through. This is the same man that caused the Chicago unit to go over and help the British. He is a big man there, and I am looking forward to a later recognition of some value in this operation for Lane's kink.

WHEN DOES THE SURGEON'S OBLIGATION TO HIS PATIENT END?*

HORACE REED, M. D., F. A. C. S.

OKLAHOMA CITY, OKLAHOMA

The ultimate in view in any proposed surgical procedure is the restoration of the patient's health. As a matter of fact, the patient is very little interested in what we do for him, unless each step brings him nearer to the goal of a normal, comfortable existence. The surgeon recognizes that certain steps are essential as a routine. In recent years we have heard very much about some of these steps. We have stressed the necessity of taking a careful history, recording all the facts which might have a bearing on the patient's condition. A thorough physical examination is rightly considered as being demanded in any condition requiring surgery, and even a certain amount of laboratory work is compulsory in hospitals that are standardized before patients can be taken to the operating room, except in an emergency. The patient meekly submits himself to all these things,—for the public, in a general way is being educated to the fact that material advancement in diagnostic investigation has been made in the last few years,—and so he goes to the hospital, sometimes on his own accord, and allows all these to be done, to the end that if surgery is indicated it may be properly done and his health again restored.

It was only a few years ago that things were different. A hospital was a place where a sick person could go, have an operation performed and occupy a bed until able to be taken home, or until it otherwise was not needed as the case might be. If a complete physical examination was made at all, it was made either in the patient's home or doctor's office, also there were no laboratory tests made, except possibly an examination of the urine for albumin, sugar and casts, and this likewise was usually done in the doctor's office.

The choice of operations in those days was "laparotomy." Sometimes this was qualified by the term "exploratory" for it would indicate an investigative temperament, and smacked of the near scientific. After operation the average surgeon prescribed a very elaborate post-operative treatment. The patient surviving all these things would be followed home by the solicitous surgeon, and for weeks or months, as required, his attentions were forthcoming. This desire to be as thorough as possible found expression in just these attentions, and the remarkable cures which were worked, and the still more remarkable gratitude which the patients felt toward the surgeon for service performed, spoke well for at least something which existed in the old order of things.

By the very nature of our procedures of today, the personal element does not enter the surgeon's relation with his patient so much as it formerly did. The patient's history is taken by an assistant, or by an intern. The physical examina-

*Read in Section on Surgery and Gynecology, Annual Meeting, Oklahoma City, May, 1920.

tion is conducted in a formal way, often for the purpose of checking up the findings of the hospital intern. The surgeon is given the records of findings of laboratory, x-ray and consultants, and with these facts before him he reaches his conclusions as to whether surgery is indicated. If indicated, the orders are given for preparation; the patient, in the course of events, is taken to the operating room, anesthetized, operated and returned to his bed. Elaborate records are made of all these steps. During convalescence the surgeon glances over the chart from time to time, and perhaps suggests an order to the house physician. He may pass through the ward occasionally and formally speak to his patients. In due course of time, it being recorded that the wound has healed, and the patient is able to get out of bed and walk around the room, he signs an order of discharge for the patient, completes the records and the *case* is closed.

But what becomes of the patient from now on? Some one may answer that the higher class hospitals are adopting the "follow-up" system, and that at stated periods the patient is requested to report his condition as to cure, improvement, or otherwise. This is true, but what is the main purpose of this follow-up system? Is it for the purpose of just making the record more complete, or is this report to serve any useful purpose to the patient? Is the surgeon to utilize the follow-up reports? If so, how? These are live questions of today.

In the movement for hospital standardization, which deserves our unqualified support, the adoption of some form of follow-up system is on the program. It behooves us as surgeons, therefore, to study the matter and find out wherein such a system may be utilized for the benefit of the patient. A plan for a system of records which does not have for its ultimate object, benefit to the patient, will fail, as rightly it should. Unless the patient understands that his co-operation in the matter is needed, primarily for his own benefit, he will respond only in an indifferent manner. To the end that he may do his full duty and get the best results, the patient must receive proper instructions, and this is wherein the surgeon is failing in our present day incomplete arrangement.

Human nature does not change very much in the course of centuries, much less in years. We must not forget, as our system of doing things becomes more and more clock-like—according to schedule—that our patients are human, and subject to all the peculiarities of the race. A follow-up system can be, and should be utilized to reach the personal element in each patient, if only it is properly begun. You may ask how this is to be done? The proper time to begin preparations for a follow-up system is immediately after a diagnosis has been made and before an operation has been performed. In fact, the patient's mind should be led to consider the final object for which the operation is to be performed, rather than the operation itself. He should be asked to consider how fine it will be when he is in good health again. He should be instructed as to what his duties will be, and how he should co-operate in order to get the best results in the least possible time. Above all he must be instructed as to the necessity of having patience while biding his time as he passes through that period—sometimes short, often many months long, before he reaches a satisfactory state of health. A timely illustration may be utilized to drive home the points you wish to make.

A fertile country smiled in its prosperity. All was happy and serene until one sad day when the levee on the river which coursed through this land broke, and the waters began to flow over the crops and into the houses. Sporadic and unskillful efforts were made to repair the leak. Seeing that their country would be laid waste, and their homes destroyed unless something radical was done, the inhabitants conferred, and decided to call an engineer to direct their efforts. With dispatch the engineer considered the problems entering into a replacement of the broken levee. He also takes a rapid survey of the damage already done, and if found to be irreparable, he advises against action. If, however, reclamation is practicable he warns the inhabitants of the probable cost, and the amount of time it will take to accomplish full restoration.

The surgeon is the engineer who rebuilds the broken levee that brought disaster to the patient's health, and he should stay on the job, at least in an advisory capacity, until restoration of damage already done is complete, or as nearly complete as it can practically be made.

The follow-up system should be the human document part of the completed record. It should be that which tells the story of achievement. The operation, the diagnosis, the clinical record—all these steps—vastly important as they are as statement of facts, should not be placed as more important than the written verdict of the patient, and the surgeon's obligation to his patient should not cease until this verdict is posted.

DISCUSSION.

Dr. Le Roy Long, Oklahoma City: Mr. Chairman, the central thought in this admirable paper by Dr. Reed is that it is the duty of a surgeon to keep his patient in mind until the patient is well. Running through this essay is a strong suggestion that the doctor should keep in personal touch with his patient. Now that the better hospitals of the country are being standardized, now that we are acquiring various and sundry things at the hands of the hospital organizations in the way of records and in the way of certain technical procedures in examination of patients, we must be careful to avoid one of the breakers that is ahead, and that is in the line of personal touch with the patient.

The average patient comes to a certain doctor for the reason that he has, first, confidence in that doctor's ability, and, second, there is something about the doctor that attracts the patient. He chooses that doctor that he likes, and it is the doctor's duty, not only from a scientific point of view, but it is his duty from the ordinary human point of view, to keep in personal touch with the patient. I think we all know of certain organizations throughout the country, organizations of great merit, organizations in which there is an abundant skill, to which we would perhaps sometimes hesitate to go for the reason that it is a machine and the personal touch is lost.

Dr. Murphy's name has been mentioned here in this meeting on several occasions, and I believe that one of the most attractive characteristics about Dr. Murphy's clinic was the fact that the patient in Dr. Murphy's clinic had been seen by Dr. Murphy, all the records had been looked over by Dr. Murphy, and after Dr. Murphy himself had gone into not only the records, but gone into the characteristics of the particular patient who had come to him for service, then the verdict was given and the service rendered.

I see this sticking out in my own work. In the work of the busy surgeon it is so easy to have the interne write the history. It is so easy for you to have the interne make the physical examination and record it. It is so easy to glance over it and go along and take it for granted, take it for what it is worth without checking it up as it ought to be checked up, and if we carry out this central thought in Dr. Reed's paper, we will not be doing our duty until we do check them up. And I may say incidentally we are not only not doing our duty to the patient, but we who work in the hospitals are not doing our duty to the young men who are there as internes, and the trained nurses, who furnish the written records and histories of the physical examinations. We should criticize these records for the benefit of the interne.

Just the other day a man came to me and asked me about the possibility of being successfully operated for inguinal hernia here in Oklahoma City. He was not speaking to me particularly about me operating on him. He is a man fifty-two years old and he said he just wanted to talk to me and find out if I thought it would be possible for him to get a good operation for inguinal hernia in Oklahoma City. I told him I thought he could. It developed that the man had been operated on the other side, at one of the great clinics of this country several years ago. He now has an atrophied testicle. He said that after he was operated on he had a tremendous swelling, with great pain. He was operated on by a man who has not

only a national reputation but an international reputation, and he said, "I sent word to him that I was suffering, and he sent word back"—he sent word back—"to put on an ice pack and I would be all right." He said, "I was a man of limited means, and when I came here I wrote back to him and said something about the operation, and whether I could be assisted in some way, and he wrote me that I should just be easy about it, 'you have had a good operation'." Now, that man believes that, and he was so thinking, about going back there to have the other side operated. Well, there is some little question in his mind; he felt if that thing happened in such a great clinic, what would happen here in Oklahoma City. The operator lost personal touch with that man, and he has not carried out his obligation, the obligation which I believe rests upon every surgeon when he operates upon anybody, and that is to try to keep in touch with him and advise him to the best of his ability until the person gets well.

The Chairman: I feel that the failure of those present to discuss this paper is due to the fact that they do not want to spoil a good thing. The paper is very complete and is quite a contribution to the literature of the surgical section of this society, and the discussion in itself is so thorough, that with the exception of whatever remarks Dr. Reed cares to make, the discussion will be closed.

Dr. Reed: I do not care to say anything in closing.

ROENTGENOLOGY IN RELATION TO SURGERY.*

JAMES C. JOHNSTON, M. D.

MC ALESTER, OKLAHOMA

From many of the discussions heard in medical societies one might easily infer that the roentgenologist makes one sort of diagnosis and the laboratory man offers another; quite different varieties are expected from the surgeon, and the internist; while the general practitioner has one all his own. The fact is that there is only one *Diagnosis*; and every investigator approaches it in the manner best suited to him to obtain the fullest and most accurate information.

If this premise be accepted as fairly representative of present conditions, then there should be less and less debate about "clinical diagnosis," "laboratory diagnosis," and "x-ray diagnosis."

The surgeon or the internist usually sees the patient first and makes some sort of examination. Too often it is not very thorough, and the patient is sent to the roentgenologist with the injunction to have some certain picture made. The roentgenologist complies and reports on this single examination in terms conforming to the request; and no one is very much wiser than he was before.

It is far better to refer a patient to the roentgenologist and ask that he examine the patient with reference to suspected lesions of certain organs, for, in this case, he will submit his findings which may be based upon more searching investigations than the referring party had deemed necessary. Then the full helpfulness of the x-ray is brought to the surgeon, and to this may be added the laboratory findings and the clinical findings, all laid down in order and completeness for the surgeon to consider before he makes his diagnosis absolute.

Let it be convincingly said, however, that the roentgenologist is not unmindful of his own advantageous position to state positively that his findings clearly demonstrate definite lesions; and, also, that not infrequently the x-ray examination will show them earlier than the other methods usually employed. Especially is this true in pulmonary and colonic tuberculosis, gastric cancer and metastatic carcinoma.

In many chronic cases, where the x-ray is not the first means to yield diagnostic signs, it is still almost indispensable in determining the degree of pathology, and the

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operability of the lesion. For example, gall-stones might cause very acute symptoms which under ordinary circumstances could be easily removed; but if the x-ray shows that the stones are complicated by a cancer of the liver, with metastasis in the lungs, the surgeon should have this information before he operates.

Such co-existing multiple lesions are very frequent, and are the bane of not only the roentgenologist, but of the surgeon as well. This subject has been very interestingly presented by Crane in the American Journal of Roentgenology (Vol. vi, No. 6, page 264). His compilation of cases makes it plain that the investigator who takes the shortest cut to a diagnosis may arrive somewhere; but he will often be guilty of errors of omission.

A fair example of co-existing lesions, which the x-ray examination materially assisted in diagnosing, follows:

Male, age 60, farmer, was referred by a surgeon for the investigation of a colonic stasis. The patient complained of constipation, loss of memory, weakness, and a discharge from tender gums. The x-ray findings were: Sinusitis of left ethmoid cells; dilated caecum; colonic stasis and metastatic carcinoma of the lungs.

Another case of interest was that of a male, age 38, painter, who complained of cough, shortness of breath, loss of weight, nausea, vertigo, and abdominal pain. X-ray findings were: early pulmonary tuberculosis, aortic aneurism, mitral disease, gall-stones, colonic stasis and pyorrhea.

These cases typify many that come to the roentgenologist; most of them are referred by the surgeon; but it remains a lamentable fact that some still come on their own initiative after treatment by many physicians who have given different names to their complaints, and all of them in some measure correct.

It is obvious, therefore, that for a diagnosis we need all of the information obtainable from every authentic source. The clinician will not procure all; the laboratory will not exhaust the possible findings of material facts; the roentgenologist will be far from one hundred per cent in his delineation of symptoms as interpreted by fluoroscope and plate; but with the fullest endeavor of all of the interested investigators to learn the greatest possible number of facts and these facts properly correlated by the surgeon will tend to form a correct, full and the only *Diagnosis*.

In this manner only will roentgenology in relation to surgery attain the degree of usefulness to mankind which is so devoutly desired for it by those who try to make it a profession and not a spectacular trade.

DISCUSSION.

Dr. C. H. Ball, Tulsa:

Incidentally, I wish to mention the fact that at the recent convention of the Radiological Society of North America at New Orleans, the term "roentgenologist" was unanimously considered taboo (one of the reasons probably being its Teutonic origin), and the name "radiologist" adopted as more in keeping with both x-ray and radium therapeutists and operators. The term "diagnosis" was also put in the discard and the term "conclusions" or "findings" was adopted.

As Dr. Johnston says, it is almost an every-day occurrence for a patient to be sent to the radiologist with absolutely no preliminary preparation or examination, and he is asked to "find out what is the matter with him." Stomach and colon examinations are frequently asked for late in the afternoon, without having the stomach or intestinal track previously emptied by a brisk cathartic and at least a twelve-hour abstinence from food.

Another very common practice is for the physician to examine a patient sometimes over a period of a week or more, occasionally consulting with several of their confreres, and even having laboratory work done, such as blood counts, Wassermann tests, urine and fecal examinations, then bring or send the patient to the radiologist,

withholding all this data, and ask for a diagnosis, which, if it does not coincide with his conclusions, confirms his already skeptical opinion of radiography.

My earnest plea to the profession in general is to give the radiologist a "square deal" and an even chance. While the x-ray is not the alpha and omega in interpreting pathological conditions in all cases, yet it is a valuable adjunct to the armamentarium of the diagnostician, and every patient should be carefully studied before having radiographs made, not only to save unnecessary expense, but also frequently save valuable time.

As an illustration, during the past year I made stomach and colon examinations in three cases referred to me as possible gastric or duodenal ulcers, which did not have sufficiently thorough clinical study, because they proved to be pellagra, the gastric symptoms being the usual concomitants of that ailment.

Kinking of the ureter is another of the conditions that is frequently overlooked or incorrectly diagnosed. O. S. Fowler, of Denver, Colorado, at the late meeting of the Radiological Society of North America at New Orleans, read a very interesting paper on this subject, accompanied by lantern slide demonstrations, showing many cases that had been diagnosed as appendicitis or gall-bladder infection, which on being radiographed, and subsequently operated upon, cleared up rapidly.

In the past few months two cases clinically diagnosed as empyema were radiographically shown to be lympho-sarcoma of the mediastinum, one corroborated at autopsy and the other corroborated at the Mayo clinic.

Another case in which an appendectomy was done without any relief whatever was later radiographically shown to be a kinking of the hepatic flexure of the colon.

It has also been a matter of common occurrence to make a diagnosis of pulmonary tuberculosis on clinical examinations, and some of them even resemble tuberculosis in the radiograph, but which on later investigation, Wassermann tests and provocative doses of arsphenamine or mercury prove to be syphilis of the lungs.

That the x-ray is coming into more general use every day as an aid to diagnosis in remote and obscure conditions of the body was absolutely demonstrated at the recent meeting of the American Medical Association at New Orleans, where a very large percentage of the papers read were accompanied by lantern slides presentations of radiographs. Especially diagnostic was the pneumoperitoneum work shown by Arthur Stein, and Wm. H. Stewart, of New York, and which was ably discussed by Oliver H. Orndoff, of Chicago, who has probably done more along this line than any one in the United States, he having to date employed this method of examination in over 400 cases. There was also shown in this connection an experimental table for fluoroscopic examinations, which permitted an ocular view at every conceivable angle.

Dr. Johnston's paper is a good and timely one, containing, as it does, a plea for more accurate determination of the many complicated conditions of the human body that daily confront us.

Dr. W. E. Dicken, Oklahoma City: In hearing the essayist's paper, it appears to me the great importance of leaving no stone unturned in our diagnosis. We all know that diagnosis is the paramount issue in all of our troubles. If we know what is the matter with the patient we can find some remedy. I think that it is too often the case that our patients are brought to the hospital, and we think we are the alpha and omega of all diagnostic troubles, and we satisfy ourselves that we know what the trouble is, and very often we slip up in our diagnosis, as is proven after the operation. We put on our operative sheet our ante-diagnosis operation, and so often after our operation a post-diagnosis is so different that it makes us feel chagrined.

Now, in order to clear our skirts and be on safe ground, there is no doubt about our procedure in this matter, in going through our laboratory and our x-ray ex-

aminations as a routine duty, especially in all occult troubles where we are in some doubt. The x-ray examinations no doubt prove a great benefit to the surgeon, and we should not leave the x-ray examinations unnoticed in all our cases that show the least possibility of a doubt in our diagnosis.

Dr. Ross Grosshart, Tulsa: The speaker spoke of using all the methods we have for diagnosis. I believe with the physicians, as they used to be called allopath and homeopath and other forms of paths, but we term ourselves "regulars," and that means, if I interpret it correctly, using anything that will cast light on the ailment, or that is good for the patient. That should not be overlooked by the doctor who is in charge, or whose patient it is.

As has been ably pointed out here, the patient is sent too frequently to the laboratory for the examination of some special region, and probably not properly prepared, and wanting a hurried up diagnosis from the x-ray. It calls to my mind a patient that has been nauseated for one and a half years, badly emaciated, with a urination sufficient to fill a quart can or two every night. She has been given a history of being relieved somewhat upon eating. Of course the interpretation from the doctor who sent her to be x-rayed, was a stomach ulcer, and with the advice to eliminate or to make a diagnosis and examination of her intestinal and stomach region. This man who had been in attendance upon this patient for a year and a half diagnosed that this patient had a stomach ulcer, has treated her for that, and to the patient's declaration, has never made a physical examination of her abdomen. The history, as he thought, was too plain. The x-ray revealed nothing pathological at all in this woman's elementary tract. Upon a physical examination there is an enlargement in the right region above the navel. A urinary analysis, by the way, showed nothing. Cleaning her bowels out and referring his patient back to the x-ray after proper preparation, it shows a stone about the size of a 32-caliber ball in the urethra with the complete shutting off of that side of the excretory organ, her kidney, and the tumor you feel is a kidney now been hyper improjectore and probably degenerated for a year and a half, with the reflexions or symptoms I gave you. I only cited this case to show how doctors and diagnosticians, as the case might be, ought always to use every known method to science, be a regular, and use every known science, every means that science avails to diagnose your case, and don't jump at conclusions.

Dr. Johnston, closing: The announcement that the cumbersome words in radiography be dropped is indeed welcome. Now, if the same society or others affiliated stop the doctors from calling us some other names, I shall hear that with equal pleasure.

One reason that the x-ray and surgery have apparently, and I say apparently advisedly, have rather drifted apart, is perhaps because a number of persons have gone into the x-ray field merely as a side line or as technicians. Naturally, the profession has been trained not to accept diagnoses or findings from that source. But I believe that with the thought in mind that the x-ray operator is primarily a physician of more or less experience, and then he uses his x-ray to interpret the case as though it were his own, and then he passes these findings on to the surgeon, I think there will be less and less of a gap between surgery and the x-ray laboratory. The paper has brought out some interesting discussion, and I am certainly grateful for the time you have given me to hear it.

DIAPHRAGMATIC HERNIA DIAGNOSED DURING LIFE.

In the case cited by Milton M. Portis and Sidney A. Portis, Chicago (*Journal A. M. A.*, Nov. 6, 1920) the diagnosis was based on the roentgenoscopic findings. On giving barium in buttermilk, the stomach was found in this pouch and to its left the splenic flexure of the colon was seen. This was more apparent when the patient was in the reclining position. The stomach did not show an hour-glass appearance. Food dropped readily from the part above the bow line of the diaphragm into the part of the stomach below and the stomach emptied in normal manner. The duodenal bulb was normal. The liver shadow was normal and there was no tenderness over the appendix or the gallbladder.

PROCEEDINGS OF THE ST. ANTHONY CLINICAL SOCIETY.

DR. CURTIS R. DAY, President.

DR. J. F. KUHN, Secretary.

OKLAHOMA CITY.

DEATH REPORT.

Drs. W. J. Boyd and J. W. Riley: *Typhoid Fever.*

Mr. A. K., age 27, white, entered hospital on June 27, 1920, complaining of headache, anorexia, fever, abdominal distress, and loss of weight.

Present illness: Patient feeling poorly since last of May, having lost twenty-seven pounds. Played base ball five days before entrance, after which he developed frontal headache, and symptoms increased to those expressed in complaint. No epistaxis, chill or diarrhea.

Past History: Patient enlisted in Army in 1917 and was discharged in April, 1919. He received anti-typhoid vaccine while in camp in 1917, and again when he was sent to France in 1918. Just previous to his return in April, 1919, he received the third series of anti-typhoid vaccine.

Family History: Negative.

Physical Examination: Well nourished man, even with history of having lost weight. Appearance apathetic, more or less listless, staring facies and mumbling speech.

Abdomen: Slightly distended; two suspicious rose spots; both flanks tympanic; general tenderness on palpation; spleen enlarged; gall-bladder and appendix negative.

Pulse 90, regular, synchronous, no dicrotism.

Blood pressure 118-70. Temperature 103.6 deg. F.

Laboratory Findings: Blood W. B. C. 4,900; polys 68; lymphs 30; large mononuclears 2. No parasites. Blood culture showed typhoid bacilli, as proven by sugar media methods. Urine: negative.

Progress: There was a rather indefinite morning remission of temperature, and the morning temperature was high, being 104 deg. F. on June 29, 1920, and 106 deg. F. on July 3, 1920. It was difficult to control the temperature with cold packs. The pulse at this time varied from 100 to 140. Patient became delirious in one day after admission, and was more or less so until death. Four days after entrance there were marked indications of cardiac weakness, and on July 5, 1920, the pulse became very irregular, scarcely palpable; Cheyne-Stokes respiration developed. Patient died at 8:00 a. m. on same day.

Autopsy: Findings were negative except for the following: Well marked areas of vascular congestion in the lower part of the jejunum, the ilium, and entire colon; several small, shallow ulcers in the lower eight inches of the ilium, arranged with no definite relation to the long axis of the gut. The intrinsic lymphatics of the gut were not markedly involved. No evidences of hemorrhage or perforation. Spleen enlarged, weighing 420 grams, and showing acute hemorrhagic splenitis, microscopically. Few small infarcts on posterior surface of left kidney.

Cause of Death: Toxemia of typhoid fever.

CASE REPORTS.

Dr. L. E. Andrews: *Diabetes Mellitus.*

Miss I. H., age 14, white, school-girl, entered hospital for treatment on account of glycosuria, and complaining of weakness and pruritis vulvae.

Present History: Patient's mother noticed that she (patient) had become nervous and tired easily, lost weight, and had developed an unusual thirst and an appetite for sweets. Patient seemed to be in usual good health until two weeks previous to entrance.

Past History: Patient has had a slight polyuria all her life; occasional "sore throat" and does not take cold easily; occasional constipation and headache which is relieved by cathartics. Has not menstruated yet.

Family History: Is an only child. Father has had polyuria all his life, but no glycosuria has been demonstrated. Grandmother died of pulmonary tuberculosis. A great aunt died of diabetes. Physical Examination: Rather thin, but well developed girl weighing $62\frac{1}{2}$ pounds.

Head and Neck: Anterior cervical nodes palpable; pharyngeal vessels congested.

Chest: One small palpable node at the sterno-clavicular junction. Lungs and heart negative.

Abdomen, extremities and reflexes negative.

Genitalia: Vulva presents excoriations of the skin.

Laboratory Findings and Progress: Blood; W. B. C. 11,400; polys 55; lymphs 45. Wassermann reaction negative. Blood sugar and carbon dioxid tension was not obtained on admission.

Pancreatic Efficiency: Feces—45 units per c.c. Urine—20 units per c.c.

Urine:

Day	Amount 24 hrs.	Sp. Gr.	Glucose	Diacetic Acid	Albumin
Upon Admission		1.030	++++	++	—
After one day's starvation	925 c.c.	1.030	+++	++	—
After two days' starvation	820 c.c.	1.010	—	++	—
After three days' starvation			—	+	—
After four days' starvation	1006 c.c.	1.020	—	—	—

After one day's starvation the carbon dioxid tension was 30 mm., Hg; after two days it was 45 mm. Hg.

The quantitative estimation of sugar in the urine on admission was 5.93%; after one day's starvation it was 2.04%.

The daily record remained the same until ten days from the first fasting day. During the time the diet had been increased until she was taking 1700 calories per 24 hours, and was able to be out of bed. Then on the tenth day she procured and ate several cookies, which resulted in the appearance of a three plus glucosuria, and a quantitative estimation of .83% of sugar. A blood sugar was made that morning showing .083%. Next day the urine was normal. Three days later another overstepping in her diet showed a slight trace of sugar, which promptly cleared by going back to a lower diet. Eighteen days after the first fasting day the patient's caloric food value was up to 2000. Her tolerance for carbohydrates had increased, and her strength was greatly increased. The urine was normal, and the pruritis vulvae entirely gone, and patient was gaining weight. She was directed as to diet and instructed to report for observation. She has gained $8\frac{1}{2}$ pounds since dismissal, about two and one-half months ago.

Dr. Horace Reed. *Intra-capsular Fracture Through the External Condyle of the Humerus.*

Master C. M., age 9, white, was admitted to hospital with complaint of "broken elbow." Injury was received three weeks previously by falling from a horse. Soon after injury, patient was seen by family physician, who noted pro-

nounced pain, swelling, and tenderness, also a freely movable fragment on the external aspect of the joint. Three attempts at reduction were futile. The arm was put up in Jones position. After the swelling had subsided no reduction of the deformity was in evidence, and patient was brought to this city.

Examination showed limitation of complete flexion and extension, the joint being held at an angle of fifty-five degrees. The fragment was movable but attempt at manipulation was painful. Pronation and supination was complete and unrestricted. X-ray examination showed an intra-capsular fracture through the end of the humerus, completely separating the external condyle from the shaft, the articular surface facing externally. No pathology was noticed in the head of the radius. This case, although representing one of loose body in the joint, is not typical of "joint mouse."

An attempt will be made to bring the fragment into position under the fluoroscope, and if it is impossible to hold the fragment in position an arthrotomy will be performed, and the piece of bone, the external condyle, removed; also a piece of fascia will be turned in. It will be suggested that the family physician begin passive motion after ten to fourteen days.

Dr. Horace Reed. *Carcinoma Involving the Urinary Bladder.*

Mr. J. K., age 47, white, was first seen by me at the office, with complaint of frequency and bloody urine. The initial symptom noticed one year ago was frequency; about a month later hematuria commenced. This has been intermittent and, at times, very profuse. At one time as much as a teacupful of clots and fluid blood was passed. Patient has had some pain, suprapubically and in the perineum which radiated down along inside of the thighs. Two months ago patient was treated by another physician in another hospital for chronic prostatitis by sounds, massage and deep instillations. Some improvement was noticed at that time. A cystoscopic examination was made when first seen by me. The small examining cystoscope entered the bladder without difficulty. The bladder capacity was normal. There was no evidence of cystitis; both ureteral orifices appeared normal. On the anterior wall of the bladder a tumor was plainly visible, portions of which projected into the lumen of the bladder. Rectal examination showed an induration extending along the course of the prostatic urethra. The prostate was moderately enlarged, firm, and hard. A nodule could be felt high up on the left side. Patient was immediately advised to come to the hospital where, after bladder irrigations of 1-500 silver nitrate were carried out for a few days, a suprapubic opening was made and the bladder explored. The anterior bladder wall was almost completely involved in a tumor mass which was obviously malignant. The mass was cauterized with actual cautery and 50 mgm. of radium, screened so as to allow only the hard (gamma) rays to penetrate, was inserted and allowed to remain 24 hours. A large drainage tube was then placed into the bladder through the suprapubic opening.

Pathological report (microscopical): Scirrhus carcinoma.

Post-operative course was uncomplicated, the tube being removed on the eighth day. Patient has continued to drain suprapubically, and for last ten days has been passing urine through the urethra. At present drainage is very scant while patient is in the erect position. The urine has been kept acid and urotropin has been given.

In connection with this case I would like to emphasize the advisability of cystoscopic examination in all diseases referable to the urinary tract. This examination can be made with utmost ease in the office and involves no more pain to the patient or trauma to the mucous membrane than passage of an ordinary steel sound. I have never found it necessary to anesthetize the urethra, preliminary to the insertion of the cystoscope, nor have I ever seen an "urethral chill" following the cystoscopic examination. I do take this precaution, however, that in any case in which I suspect an inflammation of the mucous membrane of the bladder or posterior urethra, I follow cystoscopy with instillation of 1-500

silver nitrate solution, the first 50 c.c. being allowed to pass through the catheter and the second 50 c.c. being voided by the patient after catheter is removed. The use of a complicated cystoscope is not at all necessary, and I strongly advise against it. For differential diagnosis the simple small examining cystoscope which is passed with less difficulty, which illuminates the bladder well, and whose pictures can be interpreted more readily, is much more practical. In this case there was no doubt as to the diagnosis immediately after the cystoscopic examination. Patient will be given one more 700 mgm. dose of radium.

PROCEEDINGS OF OKLAHOMA CITY CLINIC ROUND TABLE, WESLEY HOSPITAL

Dr. W. W. Rucks. *Report of a Case of Tetanus—Treated with intravenous, intraspinal, and intramuscular injections of tetanus antitoxin.*

Case—A girl twelve years old. Consulted Dr. Robt. E. Thacker of Lexington, Oklahoma, on Friday, August 13. She stated that ten days prior, while playing in and about the barn, she injured her foot running a stubble into the inner side of the sole of the left foot.

The wound was treated by the parents with ordinary home dressings. The wound was not fully healed and Dr. Thacker cleansed and dressed it aseptically. She called to see him again on Monday, the 15th, and stated that her jaw felt a little stiff and on Wednesday, the 18th, she was again seen by Dr. Thacker who diagnosed tetanus, and called me in consultation.

Dr. Thacker's diagnosis was confirmed. We did a spinal puncture under chloroform anesthesia and gave 4500 units of tetanus antitoxin intraspinally and immediately gave 6000 units intravenously. In 24 hours 5000 units were given in the spinal canal and 5000 in the vein. No more antitoxin was given for three days when 10,000 units were given intramuscularly.

Improvement was noticed after the second intraspinal and intravenous injection, which continued, the rigidity gradually disappearing. Dr. Thacker now informs me that the child is well.

During the active stage, rigidity was marked. The jaws were rigid, the tongue had been bitten, the whole body markedly rigid. There could be no doubt as to the correctness of the diagnosis. The rationale of the treatment is at once recognized when we consider the pathogenesis of tetanus infection. Inoculation of a wound with tetanus organisms, which are conveyed by the blood stream and have a natural predilection to harbor in the nervous system. The therapeutic indication is antitoxin into the spinal canal and into the blood stream.

Dr. M. E. Stout. *Case of Spina Bifida.*

Today I operated a case of spina bifida in a baby three days old. The deformity was in the lower lumbar region and was fully as large as my fist. The skin was necrotic over the mass and upon the least motion it discharged a large amount of spinal fluid.

I made a circular incision around the base of the tumor mass through the skin down to the sack or the inner wall, composed of the dura. This was dissected up well and opened just as we open a hernia sack. After observing the cauda, I then sutured the sack and inverted it and put in a second row of Lambert sutures just as we close an opening in a bowel. The muscle was then closed over and the fascia and skin closed as we would an abdominal wound.

There are a number of operative procedures described, including several types of osteal flaps, but most authors conclude their remarks by stating that practically all cases die. This led me to choose the simplest procedure, though I believe that this method is the one adopted by most authorities at this time.

As to the time for operation I think the earlier it is done the better chance we offer the patient.

This case was referred by Dr. Clifton who holds an enviable reputation for early diagnosis and surgery. Of course this baby had no hopes without operation since the skin was already broken down. He went through the operation in good shape, but the outlook in all these cases is very gloomy.

Dr. A. L. Blesh. *Prostatic Enlargement. (Cancer Prostate.)*

J. L. C., aged 60, came to office May 15, 1920, complaining that for past year he has had frequent scanty and at times painful urination with occasional hematuria. Three weeks before consulting surgeon he had complete retention and was catheterized. Family history negative, except one sister died of cancer.

Physical examination negative except for rectal, which showed a moderately large, somewhat fixed prostate.

Residual urine, 4 oz.

May 20th. Urinalysis: albumen small amount, R. B. C. occasional, pus abundant. Functional: First 15 m. 40%, second 15 m. 50%.

Operation two stage. First step, May 21st. Suprapubic cystotomy—Prostate of moderate size but firmly fixed, bleeds easily. Second step, June 16th. Prostate impossible of enucleation. Section for microscope. Report, carcinoma.

Returned August 27th for irradiation. Four needles inserted through suprapubic opening into prostate. 50 m.g. in all of radium. Dose 1200 milligram hours. No immediate reaction. In 24 hours patient returned to his home. Will report later results.

Dr. D. D. Paulus. *Case of Purpura Hemorrhagica.*

Case No. 6386. Female, age 12.

Briefly, the history and findings are as follows: Patient had usual diseases of childhood, except scarlet fever and diphtheria. Never has been sick otherwise. Never had rheumatism. *Never had menstruated.*

Present trouble started three months ago with feeling of weakness and easy fatigue. Appetite not very good. No cough. At this time she noticed that slight bruise on leg left a marked black and blue spot for some time. Since then has had numerous subcutaneous hemorrhages under the skin involving arms, legs, and over parts of chest and back. Three weeks ago commenced to have oozing of blood from gums and has persisted up to present time.

Physical examination shows fairly well nourished rather anemic young girl. Conjunctiva and mucous membranes pale. Teeth good condition. Gums bleeding. Posterior cervical glands, left side, palpable. Inguinal glands palpable. Otherwise glandular system negative. Heart borders normal. Soft systolic blow heard, best over fourth interspace on left side of sternum, also heard over apex, probably haemic murmur. Chest negative. Abdomen shows spleen easily palpable. Liver not palpable. Subcutaneous hemorrhage, under skin of arms, legs and right chest and back. Temperature has been running from normal to 100 daily. Pulse 110, easily compressible. Urine negative. Blood count, 3,120,000 reds. 17,000 white, H. B. 45. Differential count, polys., 13. Small lymphocytes, 83. Large lymphocytes, 4. No transitional form. No lymphoblasts were seen and platelet count did not seem diminished.

Question in the diagnosis in this case is, Is this a purpura hemorrhagica or an aleukemic form of lymphatic leukemia? In purpura hemorrhagica, the bleeding time is greatly prolonged and platelet count greatly decreased. Some few cases reported in the literature also showed marked diminution or complete absence of the polynuclear cells from the blood. The polynuclear count in this was only 13%. Could this case be put in this class, or is it a beginning lymphatic leukemia of the aleukemic form, where the white cell count is still low, and no evidence of lymphatic gland involvement except as noted in the history? No doubt a week or two will bring out other details in her case.

In the meantime we shall use horse serum injection with calcium chloride or calcium lactate and if necessary transfuse her by the citrate method. I shall report further progress of this case at a future meeting.

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The editorial department is not responsible for the opinions expressed in the original articles of contributors.

Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscript or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, 508 Barnes Building, Muskogee, Okla

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A. will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

EDITORIAL

OFFICIAL RETURNS ON THE CHIRO BILL. State Question No. 94, Referendum Petition No. 30.

	Yes	No		Yes	No
Adair.....	1167	801	Garfield.....	7519	2747
Alfalfa.....	2403	1931	Garvin.....	2514	2763
Atoka.....	1358	1584	Grady.....	3316	2984
Beaver.....	1460	1349	Grant.....	2959	2080
Beckham.....	3488	989	Greer.....	1774	918
Blaine.....	2378	1525	Harmon.....	721	576
Bryan.....	3016	2435	Harper.....	1122	805
Caddo.....	4319	2939	Haskell.....	1205	1449
Canadian.....	3480	2872	Hughes.....	1434	2509
Carter.....	4150	2392	Jackson.....	2098	1560
Cherokee.....	1256	1080	Jefferson.....	1643	1562
Choctaw.....	1850	1477	Johnston.....	1188	1404
Cimarron.....	617	385	Kay.....	4510	4642
Cleveland.....	2243	1832	Kingfisher.....	2611	2138
Coal.....	1804	1445	Kiowa.....	3127	1778
Comanche.....	3119	2696	Latimer.....	1457	777
Cotton.....	1644	1782	LeFlore.....	2834	2782
Craig.....	2227	2154	Lincoln.....	4522	2834
Creek.....	6486	3986	Logan.....	3937	2387
Custer.....	3726	1757	Love.....	814	1212
Delaware.....	946	1229	McClain.....	1697	1424
Dewey.....	2024	1055	McCurtain.....	1873	1633
Ellis.....	1591	1182	McIntosh.....	1668	1954

	Yes	No		Yes	No
Major.....	1872	1184	Pushmataha.....	1181	818
Marshall.....	1529	1001	Rogers.....	2545	1787
Mayes.....	1624	1408	Roger Mills.....	1607	775
Murray.....	1328	984	Seminole.....	1538	1347
Muskogee.....	4565	4608	Sequoyah.....	1345	1747
Noble.....	2422	1424	Stephens.....	2109	1821
Nowata.....	1865	1462	Texas.....	1733	1070
Okfuskee.....	1251	1216	Tillman.....	2814	1179
Oklahoma.....	16406	12285	Tulsa.....	10654	8147
Okmulgee.....	3951	3739	Wagoner.....	1221	1051
Osage.....	4020	3086	Washita.....	2986	1046
Ottawa.....	3388	3416	Washington.....	2637	3703
Pawnee.....	2508	2057	Woods.....	2626	1595
Payne.....	4859	2544	Woodward.....	1587	2111
Pittsburg.....	4339	4055			
Pontotoc.....	2008	2495	TOTAL.....	211,252	164,788
Pottawatomie.....	3546	3861			

THE JOURNAL'S NEW CLOTHES FOR 1921.

With January, 1921, our *Journal* will appear in a new, enlarged, strange, and changed garb. This graduation into the class of first leaguers has long been urged upon our organization by experts in medical publications and their problems; the chief arguments being economy of handling, the same as to creation of advertising cuts, an item of no small proportions, as well as the many other and varied benefits coming from adoption of page size which has grown into standard acceptance by the great majority of medical publications of the country. The cover page will be pure white, similar to the inside make-up; while the columns will be narrowed in order to make two to the page. Our advertisers in many respects will also benefit by this arrangement, as they will often find lodgment alongside certain classes of reading matter, thus coming more directly under the reader's eye.

THE STATUS OF CHIROPRACTIC IN OKLAHOMA.

Prior to the November elections a respectable number of letters of inquiry as to the status of Chiropractic, its amenability to legal control, suggestions, usually bearing the evidences, not of the slightest attempt to obtain the information at the writer's elbow, but voicing his personal idea of what should be, not what was, the rule. To put the matter as it now appears to stand, answering such inquiries by this means and to save pages of weary correspondence, our members are to understand that:

Chiropractic never had any sort of legal status or recognition in Oklahoma or its antecedent territorial, tribal or Congressional acts, differing in this from the status of all other medical systems and that of the Osteopathic; the latter, up to this time, the only system of "drugless healing" accorded legal recognition.

Senate Bill 111, written into our law books March, 1918, referred under the law by the Chiropractics, as they had a perfect right to so do, to the voters for final disposition, never applied, and now never will, as it was nullified by the votes of the majority at the polls November second.

This leaves the matter precisely as it formerly stood. All the time-wasting, expensive, non-co-operative effort exacted over years of endeavor was swept aside. The attempt and intent to give this bizarre "science" a recognition identical with that accorded the osteopathic system in this and many other states; that is, representation on the board of examiners, requirement as to fundamental preparation, examination in his peculiarities of application of treatment by his own school mem-

ber, seems not to have been relished by these assertive gentlemen, they seem to wish to "gang" to themselves, really to acquire by any means of misrepresentation to the people voters, the widest flight of imagination and dishonesty presents to them, the right to manufacture overnight, "doctors." It may be expected they will now present themselves to the incoming legislature with their plea for a separate board of examiners and we will hear all over again the nauseas detail of claims veering from the absurd to the impossible and dishonest.

AMBIGUITIES OF THE HARRISON ANTI-NARCOTIC LAW.

The House of Delegates at the special meeting in Chicago, November 11 and 12, adopted the following resolutions for the purpose of securing possible clarification of the uncertain terms of certain Supreme Court decisions, which have caused wide alteration and change of the generally accepted ideas heretofore prevailing on this vexatious matter.

RESOLUTION ON HARRISON LAW.

Whereas, the Harrison Narcotic Law provides that cocaine and the opiate drugs may be dispensed by a physician "in the course of his professional practice only," and may be dispensed by a dealer on the "prescription" of a physician; and

Whereas, the Supreme Court has decided that these provisions of the law do not permit the supplying of these drugs to habitual users under certain conditions, but has not defined the meaning of the words "course of professional practice" and "prescription," as used in the law, with sufficient definiteness and precision to enable physicians to decide with certainty what acts are lawful and what are unlawful in dispensing and prescribing such drugs; and

Whereas, it is desirable and important that the meaning of the law be made so clear that any physician dispensing or prescribing such drugs in any given case can know whether or not he is violating the law; and

Whereas, a clear and concrete knowledge of the acts which constitute a violation of the law will not only enable physicians to avoid its violation but will also materially aid in the enforcement of the law against those who abuse their professional privileges:

Resolved, that a special committee be appointed for the purpose of calling upon the Attorney General of the United States and conferring with him as to the practicability of obtaining decisions from the United States Supreme Court which will remove existing uncertainties as to the meaning and application of the provisions of the Harrison Law above referred to; and further

Resolved that Drs. —, —, and —, be and they hereby are designated as such committee and are hereby authorized and instructed to take the necessary steps to carry out the purpose of this resolution.

PERSONAL AND GENERAL NEWS

Dec 22
 Dr. J. R. Collins, Nowata, has located in Claremore.

Dr. T. Fuller, Amber, has moved to Stonewall, Oklahoma.

Dr. F. L. Hughson, Vinita, has moved to Breckenridge, Texas.

Dr. and Mrs. J. P. Miller, Cheyenne, visited Texas points via automobile in November.

Dr. A. W. Clarkson, Valliant, so far, holds the high record as McCurtain County's potato raiser.

Dr. and Mrs. H. L. Dalby, Wilburton, have returned from a visit of many months to California.

Dr. J. M. Hanna, Aleck, narrowly escaped serious injury when his car turned over at a bridge head near Chickasha.

Dr. and Mrs. L. J. Moorman, Oklahoma City, attended the meeting of the Southern Medical Association, Louisville, November 15-18th.

Drs. I. B. Oldham, W. P. Fite, H. T. Ballantine and Claude Thompson, of Muskogee, visited the Southern Medical Association in November.

Oklahoma Odd Fellows have decided to build two small hospitals, one at Checotah and one at Carmen, the buildings to cost about \$12,500.00.

Muskogee, Third District Nurses, November fifth, elected Miss Mottie Dodson, President, and Mrs. Hazel Henry, Secretary, for the ensuing year.

Dr. R. H. Harper, Afton, returned in November from an extended hunting trip in New Mexico. The nimrod reports that he secured all the deer the New Mexican law permitted.

Dr. Dick Lowry, Oklahoma City, had the extreme misfortune of striking an Oklahoma City pedestrian with his automobile recently, resulting in almost immediate death of the man.

Dr. Clara F. Palmer, of McAlester, Okla., was in Washington, D. C., to attend the funeral of her husband, 1st Lieut. Thos. J. Palmer, 6th Sanitary train, who died in France, Oct. 28, 1918. Burial at Arlington Heights, Va., November 10, 1920.

Dr. Roy D. Stone, Covington, narrowly escaped death from an explosion of gas which wrecked his office November 11th. The explosion occurred when Dr. Stone switched on an electric light in his room, the current apparently igniting escaped gas. The room was wrecked, the door blown off and to a distance of fifty feet from the building. Aside from many painful burns the doctor received a severe laceration of the forehead.

Tulsa nurses and physicians have established a Nurses' and Physicians' Exchange, the function of the central office seeming to be to facilitate rapid transmission of messages calling for physicians and nurses. Wherever the physician goes, to the theater, social gathering, church, shop, or neighboring town, if he calls an exchange, notifying them of his address, he is soon reached. This plan has worked with remarkable success in other cities.

Dr. Frank Harrison McGregor, Mangum, and Miss Mary Genevieve Tennery, Oklahoma City, were married in that city November fifteenth. They will be at home at Mangum after December first. The *Journal* feels especial pride in congratulating this couple upon the happiest event of their lives, for Dr. McGregor is literally one of the "King's Own," being the proud possessor of a Distinguished Service Cross, graciously bestowed upon him by the King of England, the cross bearing the inscription "Battle of the Marne," where for ten days Lieutenant Frank H. McGregor, Medical Corps, M. C., U. S. A., attached to the British Forces, carried on, finally emerging with honor as practically the only survivor of his contingent. Mere words from us are inadequate in voicing our feeling of congratulation to him.

Muskogee's municipal circles, health officers, etc., are undergoing an extended conversation as to some practical solution for the care and treatment of narcotic addicts. Judge Fred S. Zick, of the City Court announcing that he is through sentencing these victims to long jail confinement, unless they are given modern treatment in keeping with modern ideas of humanitarianism, that they are ill people needing medical treatment rather than penal servitude. City Manager Harrison, it is said, does not favor a municipal treatment system, for the very obvious reason that Muskogee would be flooded with cases not properly her concern. That the state should do something more than regard these people merely as pervers and, as glib ignoramuses denominate them, "fiends," goes without saying. Every person of experience appreciates that these people are ill, not criminals.

DOCTOR CHARLES B. BALLARD.

Dr. Charles B. Ballard, Pooleville, was found dead near that town October 24th, death said to have been due to pulmonary hemorrhage, and having occurred while the doctor was attending a call. He was found near his automobile, the engine of which was still running. Dr. Ballard practiced medicine at Kingston and Mannsville for many years, lately moving to Pooleville. He is survived by a wife and six children, three sisters and four brothers, one of whom is Dr. A. E. Ballard, of Madill. Dr. Ballard was born in DeWitt County, Texas, in 1875. He was a graduate of the Medical Department of the Fort Worth University in 1905. For practically all his life he had been outstandingly active in church work, his affiliation being with the Methodists. Interment was made in Rose Hill Cemetery, Ardmore.

MISCELLANEOUS

REPORT OF OKLAHOMA STATE PUBLIC HEALTH CONFERENCE.

A departure from the usual type of health gathering was the third annual Oklahoma State Public Health Conference held in Oklahoma City October 12th and 13th under the joint direction of the Oklahoma Tuberculosis Association and the State Department of Health. Realizing the importance of gaining the support of business and professional interests in the public health campaign, the first afternoon meeting was given over entirely to a business men's health session. Addresses were delivered

by representative business men in the state on the relation of health to industry and the interest for the business man in the general health campaign. Chambers of Commerce, Rotary, Lions and Kiwanis Clubs sent official representatives to the conference and the united support of these organizations was assured in the state public health movement.

Other sessions were devoted to questions of tuberculosis control and health legislation, public health nursing and child hygiene and county health problems. Among those who addressed the conference were Robert L. Owen, U. S. Senator for Oklahoma, who spoke of his efforts in behalf of securing a National Department of Health; Prof. M. P. Ravenal, President of the American Public Health Association; Dr. S. J. Crumrine, State Health Officer of Kansas, and Dr. A. E. Peterson of the National Red Cross.

More than 250 persons attended the sessions and at the annual meeting of the Oklahoma Tuberculosis Association, a resolution was passed calling for a change in the name of the Association to Oklahoma Public Health Association. Other resolutions called for increased appropriation for the State Health Department; \$500,000 to complete and expand the State Tuberculosis Sanatoria and the creation of a Bureau of public health nursing in the State health department.

THE TREATMENT OF SHOCK.

That the surgeon has in Adrenalin a dependable means of combating shock has been known to the profession for a number of years. As long ago as 1909 Mummery and Symes announced their observations on the effects of Adrenalin upon the blood pressure and recommended its use by the slow and continuous injection of a very weak solution into a peripheral vein. They also found that the action of Adrenalin is enhanced by the coincidental administration of pituitrin, this procedure producing a more marked effect in shocked animals than in normal subjects.

In our advertising section, under the title "Adrenalin in Medicine," will be found a brief review of the plan of treating shock with highly diluted solutions of Adrenalin Chloride, by intravenous infusion and by "centripetal arterial transfusion," after the method of Crile.

This little essay is the third of a series of concise and informative papers published in this rather unconventional form by Parke, Davis & Co. We have no hesitation in commending these meritorious articles to the consideration of our readers.

STATE VACCINES AND SERUMS.

(By Dr. A. R. Lewis.)

To prevent epidemics and for the purpose of safeguarding the health of the people of Oklahoma—particularly the poor and indigent who are unable to pay—the State Department of Health will keep on hand at all times a supply of vaccines, serums and anti-toxins.

These will be kept at the State Laboratory where facilities are available for their preservation. Care will be taken to see that the time limit does not run out on any of them; and, in a word, requests will be filled promptly and with serums that are in the best of condition.

There will be a supply of anti-toxin for the treatment of diphtheria and tetanus. Vaccines for typhoid, small pox, anti-rabic, influenza, and pneumonia; and meningitis serum.

Any of these, in one or more treatments, will be sent upon request to any doctor, druggist or county health officer in the state. Especially in cases of emergency will this service be of help to the physicians of the state.

Though the State Health Department has been given funds for disease prevention in the State, yet this fund is insufficient to provide these preventive medicines free to every doctor. Only in cases where the patient is unable to pay, will the treatments be furnished free. In such cases, the name of the patient to whom the treatment is administered must be given at the time of application for the vaccine.

Some contagious diseases, such as diphtheria and smallpox, spread with such rapidity that time becomes a very vital factor in their suppression. The State Department of Health has, therefore, planned this service to prevent epidemics and the spread of diseases over the state; and to co-operate with the physicians of Oklahoma in conserving the public health.

A NEW DEPARTMENT.

Beginning with the January issue, the *Medical Review of Reviews*, of New York, will inaugurate a new Department for the advancement of the science of Chemo-Therapy.

In order to develop the theories as set forth by the various investigators who have thus far entered this field, we invite the co-operation of all physicians, chemists, bacteriologists and pharmacologists who are doing or contemplate doing work along these lines.

It is our purpose to stimulate a more thorough fundamental knowledge of this subject, which so far is little known to a great number of practicing physicians.

Believing Chemo-Therapy to be a rich field for the development of products of great therapeutic value, and that we have so far neglected to give it the importance that past researches would warrant, we are placing this department at the disposal of all those who may find an interest in the subject, as an open forum where contributions dealing with this science will be welcomed.

OFFICERS OF COUNTY SOCIETIES, 1920*

County	President	Secretary
Adair	S. R. Evans, Stilwell	Jos. A. Patton, Stilwell
Alfalfa	T. A. Rhodes, Cherokee	Wm. Stout, Cherokee
Atoka	T. H. Briggs, Atoka	C. C. Gardner, Atoka
Beaver		
Beckham	R. C. McCreery, Erick	J. E. Yarbrough, Erick
Blaine		J. A. Norris, Okeene
Bryan	A. J. Wells, Calera	J. L. Austin, Durant
Caddo	Geo. C. Campbell, Anadarko	Chas. R. Hume, Anadarko
Canadian	Phil Herod, El Reno	J. T. Phelps, E. Reno
Carter		Robt. H. Henry, Ardmore
Choctaw	G. E. Harris, Hugo	Reed Wolfe, Hugo
Cleveland	J. P. Torrey, Norman	Gayfree Ellison, Norman
Cherokee	W. G. Blake, Tahlequah	P. H. Medearis, Tahlequah
Comanche	Jackson Brashear, Lawton	E. B. Mitchell, Lawton
Coal		W. T. Blount, Tupelo
Cotton	C. W. Alexander, Temple	A. R. Hancock, Walters
Craig	Louis Baghy, Vinita	R. L. Mitchell, Vinita
Creek		J. W. Bouc, Sapulpa
Custer	K. D. Gossam, Custer City	O. H. Parker, Custer City
Dewey		
Ellis		
Garfield	G. A. Boyle, Enid	L. W. Cotton, Enid
Garvin	J. R. Callaway, Pauls Valley	N. H. Lindsey, Pauls Valley
Grady	H. C. Antle, Chickasha	U. C. Boon, Chickasha
Grant	I. V. Hardy, Medford	Chas. E. Brake, Medford
Greer	G. W. Wiley, Granite	J. B. Hollis, Mangum
Harmon	W. G. Husband, Hollis	Ray L. Pendergraft, Hollis
Haskell	S. E. Mitchell, Stigler	R. F. Terrell, Stigler
Hughes		
Jackson	E. S. Crow, Olustee	J. B. Hix, Altus
Jefferson	W. M. Browning, Waurika	J. I. Derr, Waurika
Johnston		
Kay	J. C. Hawkins, Blackwell	I. D. Walker, Blackwell
Kingfisher	C. O. Gose, Hennessey	H. O. Mcredith, Kingfisher
Kiowa	J. A. Land, Lonewolf	J. M. Bonham, Hohart
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EXPERIENCES WITH EMPYEMA AT BASE HOSPITAL 101, A. E. F., FRANCE.*

P. P. NESBITT, M. D.

MUSKOGEE, OKLA.

FORMERLY MAJOR, M. C., U. S. ARMY

During my twenty-two months service at Base Hospital 101, St. Nazaire, France, from September 1, 1917, to the last of June, 1919, the operating room reports show that 131 cases of empyema were operated, two cases were cured by aspiration alone, and a number of cases were received after operation, making in all about 150. Of the 131 cases operated rib resection with drainage was done on 51, minor thoracotomy with drainage on 76, major thoracotomy with lung mobilization was done as a primary operation on one case of empyema following pneumonia, and on four cases of empyema resulting from G. S. W. of the chest with foreign bodies in the pus cavity. Major thoracotomy with lung mobilization was done on 13 other cases following rib resection and drainage, two of these requiring a second operation.

Of the 131 cases operated, in 124 the empyema developed from pneumonia. Of the seven other cases four followed G. S. W. as stated before, one followed fracture of a rib, one developed in a case of peritonitis caused by a ruptured appendix, and one was a recurrence of an empyema resulting from a stab wound received several years previous.

In some of the earlier cases no laboratory examination was made, but of those examined all except the seven atypical cases mentioned showed a pneumococcus or streptococcus hemolyticus. Beginning with the latter months of 1918 the pneumococci found were typed. I do not have the figures but type one and type three predominated.

During the first year, that is up to September, 1918, the cases following pneumonia, 44 in number, were all apparently pneumococcus infections. During September and October, 1918, the "flu" epidemic reached us. On October 7th we received 1200 cases of "flu" from three transports from the States. Of the "flu" victims about 50 developed empyema following bronchopneumonia and these were practically all streptococcus hemolyticus infections.

For the first year Major James A. Duff, Chief of the Surgical Service, had direct charge of the empyema work and operated most of the cases. The writer operated a few and for a time had several of the cases in his wards. In June, 1918, Lt. Col. Lilianthal, Chief of the Surgical Staff of the Mt. Sinai Base Hospital Unit, was sent

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to our hospital for special work in chest surgery. The Lillianthal operation was done on all the cases of major thoracotomy and lung mobilization, and all but four of these operations were done by Lt. Col. Lillianthal or with his assistance and supervision. After September 1, 1918, the writer operated all but a very few of the cases and had charge of the after treatment, having the active co-operation of Major Duff after his return, November 23rd, from service with evacuation hospitals at the front.

ANESTHETICS.

All the major thoracotomies were done under ether anesthesia. At first all rib resections were done under general anesthesia, later a part were done with cocain, later general anesthesia was discontinued, although so far as we could determine there were no bad after effects from the general anesthetics. The records show two cases operated under chloroform anesthesia, 17 under ether, and all others under cocain. All operations of minor thoracotomy were done under cocain anesthesia.

OPERATIONS.

During the first year rib resection and drainage was done on all cases except three in which major thoracotomy was done as a primary operation. Beginning early in the fall of 1918 rib resection was done on the cases showing pneumococcus infection, and minor thoracotomy on those showing streptococcus hemolyticus. In doing this we were guided by the reports of the surgeons who had had experience with this type of cases in the cantonments in the States the year previous. A short time after beginning to do minor thoracotomies we discontinued rib resection and performed thoracotomies on all cases regardless of the type of infection.

The technique of the operation done by the writer is as follows: The most favorable point for drainage, i. e., the most dependent part of the pus cavity, was determined by physical examination and in most cases by x-ray examination. The field of operation was painted with tincture of iodine and the arm on the affected side brought to the side as near the axillary line as possible without interfering with the operation. With 1-2% cocain solution the skin was indurated in a line about 1 1-2 inches long over the intercostal space at the point selected. Deeper injections of the same solution were then made, taking care to inject under the edge of the rib above, behind the posterior end of the injected skin line, in order to block the intercostal nerve, and down to and into the parietal layer of the pleura under the middle of the line. A long aspirating needle with syringe attached was then passed through the skin at the middle point of the indurated line and on into the pus cavity. When pus could be drawn freely into the syringe the syringe was disconnected leaving the needle in situ. With a broad bladed scalpel an incision about one inch in length was made through the skin and down into or through the intercostal muscle parallel to the border of the rib and keeping the blade against the lower side of the needle. The point of the scalpel was then pointed directly inward and a puncture made into the pus cavity along the lower side of the needle. The blades of a 12-inch dressing forceps were then passed along the lower surface of the scalpel into the pus cavity, after which the needle and the scalpel were removed. The end of a soft rubber drainage tube was then seized in a curved hemostatic forceps and forced between the blades of the dressing forceps from one inch to 1 1-2 inch inside the pus cavity, the dressing forceps being held in such position that the blades as they were forced apart would press against the ribs above and below the incision. The dressing forceps was then removed and reinserted, one blade inside the tube the other outside, and the tube thus held in place while the hemostat was removed. The dressing forceps was then removed and the tube anchored by a silkworm gut suture through it and the skin, the suture being passed in such a way as to not close the skin incision. (Before leaving the operating room a large safety pin was always passed through the tube near the skin surface.) The patient was then turned in such a position as to let as much of the pus as would do so drain out. The cavity was then filled with Dakin's solution and this allowed to drain out. After several

washings a large gauze dressing covered with a cotton pad was applied and held in place with adhesive and the patient returned to the ward.

The advantages of this operation are: (1) There is no pain at all in most cases, and very little in any; (2) Shock is reduced to the lowest possible degree, most of the patients leave the operating room feeling much better than they have for some time previous. Occasionally a very large collection of pus could not be evacuated rapidly without producing signs of shock, and in some it was necessary to clamp off the drainage tube and evacuate the remainder of the pus after waiting a few hours. (3) The position of the arm leaves the muscles in the wound in a natural position so the tube remains in place and drainage is not interfered with; (4) The tube fits snugly into the opening in the pleura so there is no leakage of pus around it, and the pus that escapes into the wound during the operation drains out readily as the wound is not entirely closed; (5) As used, the aspirating needle insures making the opening into the pus cavity, and by making the incision on the lower side of the needle the intercostal nerve and artery are protected from injury.

The advantages of the Dakin's solution are the same as those mentioned in considering the after treatment.

AFTER TREATMENT.

Patients were urged to eat heartily and by order of the Commanding Officer there was no restriction on food for the empyema wards. There was an abundant supply of milk, and after the price of eggs rose above the limit the hospital was allowed to pay, the Red Cross supplied eggs to these wards. In addition to the food from the hospital kitchen, the nurses prepared special diets in the wards. During the winter months one ounce of port wine was given each patient before the midday and evening meals. A bitter tonic was given to some of the patients when it seemed indicated. Cathartics were given when needed and occasionally a patient was given a sedative cough mixture.

When possible the patients were bathed every day, but owing to the crowded condition of the hospital and the small number of nurses this was often impossible. As soon as his condition would permit, the patient was propped up in bed, then put in a wheel chair once or twice a day, then as soon as he was able he was allowed to walk about the ward and to get out doors when the weather would permit.

A very important part of the after treatment used by Lt. Col. Lilianthal in his lung mobilization cases was to have the patient blow against resistance, causing expansion of the lung. This was accomplished by having the patient inflate a rubber cushion, urging him to force in all the air possible. During the second year this method was used in all our cases and in my opinion was very largely responsible for the fact that in more than 80 cases it was necessary to do a secondary lung mobilization operation in only one.

The wounds were dressed twice a day as a routine and three or four times where the drainage was very profuse. The dressings were removed, then the patient placed in the most favorable position for drainage and he would force out all the pus possible by blowing. Then he was turned so that the opening would be at the highest part of the cavity and the cavity filled with Dakin's solution. After a few minutes he was again turned in the drainage position and as much as possible of the fluid forced out. Then he was turned again and one-half of the amount of Dakin's solution necessary to fill the cavity was introduced and allowed to remain.

The advantage of the Dakin's solution as used was that it dissolved the fibrinous deposit in the pus and on the walls of the cavity so that the fluid was kept thin and the drainage tubes did not stop up. Of course, used in this way, we did not get the sterilizing effect of the Dakin's solution, but with our limited nursing staff it was impossible to employ Carrel's Method.

We found that Dakin's solution could be used in nearly every case at time of operation, but in a very considerable number after a few treatments (probably after fibrinous plugs had been dissolved or dislodged) a bronchial fistula would dev-

velop and the Dakin's could not be used. In some of these the Dakin's could be used if the cavity was only partly filled with it. Some of these bronchial fistulae healed in a short time, while others persisted until the cavity was entirely closed. In the cases where Dakin's could not be used, normal salt solution was used in the same way and with apparently about the same results.

The original drainage tube was left in place for about ten days, after that they were changed frequently.

Fleuroscopic examinations were made of all patients frequently, noting: the general condition of all the organs in the chest; the size and location of the cavity; the effect that expansion of the lung by blowing had on the size of the cavity; the location and amount of the fluid, if any present. By this means we were able to note the progress of the case and to drain any pockets of pus that became closed off from the general cavity. In only two cases was it necessary to make a second external opening to secure drainage.

After the cavities became small if the drainage was still purulent, five to ten c.c. of 2% formalin in glycerin was injected once a day and allowed to remain, the patient being turned in different positions to try to bring the fluid in contact with all the surface of the cavity. This resulted in the discharge becoming serous after a few treatments. Where small cavities persisted for some time, 12 1-2% balsam of Peru in castor oil was used. It was found necessary to keep a small tube in the wound until the cavity was almost entirely obliterated, then a gauze trailer saturated with the balsam mixture was used. Bismuth paste was not used but I believe it could have been used to advantage in the later stages.

MORTALITY.

I regret that I have not the exact figures but the following are approximately correct. During the first year the mortality was about twenty-five per cent. Four men died of the eighteen on whom the major operation for lung mobilization was done, one of these had been operated twice. During the second year the mortality was about ten per cent. for the pneumococcus infections, and about 25% for the streptococcus hemolyticus infections. In the second year the deaths almost all occurred within a few hours or at latest within one or two days following the operation. Some exceptions to this were: one developed tuberculosis, which ran a rather rapid course; one died of pneumonia, and one developed a general septicemia with pus in the joints, the other side of the chest, and in the abdomen, after the first cavity had almost healed.

I do not attribute the lower death rate of the pneumococcus cases during the second year to the change of treatment altogether, as during the first year a great many of the patients were moribund when received from the transports and camps, while during the second year most of the cases developed in our hospital or came from the nearby camp hospitals and the average condition at time of operation was much better. However, during the first year the course of the disease was much longer and a number of patients died several days or weeks after operation.

RESULTS.

The patients who reacted favorably after operation gained strength and weight rapidly, most of them in a short time weighing as much or more than they had ever weighed. The temperature soon dropped to near normal and stayed there unless the drainage was interfered with. Most of them were quite comfortable, although a majority could not move the arm on the affected side freely without causing pain in the wound. About half were completely healed before leaving the hospital and all the others were well on the road to recovery before being sent back to the States, a number being completely healed before the transports reached home. The time required for healing after minor thoracotomy varied from two to eight weeks, with a very few persisting even longer. The average time was from four to five weeks. In all the cases with large cavities which healed slowly there

was more or less deformity, the ribs coming closer together and taking a more vertical direction as the chest wall pressed in to help obliterate the cavity. This was not so noticeable in the cases with small cavities or where the lung expanded rapidly.

IN CONCLUSION.

In presenting this very incomplete report of our work with empyema, it is with no claim for the originality or excellence of methods, nor for unusually good results. It must be remembered that this work was only a small part of a very busy surgical service in an isolated hospital. Aside from the very helpful instruction of Lt. Col. Lilianthal and an occasional article in the few medical journals that reached us, we had no help from outside our own hospital, but must meet our problems and solve them as best we could. Our course of procedure was determined by Major Duff and myself, taking into consideration the suggestions given by other officers of the staff and the nurses assisting in this work. I want to especially acknowledge the assistance in carrying out the work given by the other officers of the surgical staff, the hospital laboratory and x-ray department, and the nurses in charge of the empyema wards.

DISCUSSION.

Dr. E. B. Dunlap, Lawton: It is quite a pleasure to listen to a paper of this character on a subject that so frequently we have to come in contact with. I am not disposed to criticize the contents of the paper. In the first place the conditions under which this work was carried on were perhaps not such as might be had under other circumstances. However, I do not think that we need to make any apologies for the results obtained in this work. The second reason for not criticizing the paper is that my experience with empyema has been along different lines, and the success that I have had with empyema along the lines treated has led me not to change my plans. For that reason this paper is of especial interest to me.

As mentioned last night, there should be some effort to standardize our methods in medicine, and I think it should be applied to surgery, but we know the conditions surrounding the different pathological conditions with which we meet must necessarily vary our methods of treatment. The great question that confronts me in this proposition is to know when it is advisable to do an open operation or a rib resection, when to do a minor thoracotomy, and one of continuous drainage. As I say, my experience has been all together along the line of rib resection and proper free drainage, and not having had any experience along the other line I am not in position to criticize.

However, as the essayist tells us, the condition of the patient during the first year this work was conducted was very unfavorable to any operation. That was the period in which the major operation or rib resection was performed, and during that year we see a mortality rate of 25 per cent. During the second year rib resection was discarded all together, and drainage instituted entirely. During this year we find the mortality dropping to 10 per cent where we have the pneumococcus infections, and about 25 per cent where we have the streptococcus hemolyticus to deal with. There opens the question, whether in the streptococcus hemolyticus it is not advisable to do a continuous aspiration.

It seems from what I can gather from the literature and what I have read in our books, from the reading of this paper and from my experience with this trouble, that each case should be studied individually. If there is double involvement, of course we know that palliative measures would be indicated. If we had, for instance, double empyema, we would not think of opening the thorax on both sides. For that reason I think minor thoracotomy is admirably indicated. But where we have this stage that we can go in and resect a rib, institute drainage, insert a tube 5-8 inch in diameter or two tubes is better, while we have the incision and the cavity open, with the gloved finger search for pockets that have been

walled off due to adherence to the cavity wall, it seems it is more in line with the evacuation of a pus cavity.

Of course we read of the disastrous results obtained in the different cantonments during the "flu" epidemic and empyema following influenza that one came to the conclusion, not so much that they were using improper methods, I gather, but that the condition itself perhaps was attacked too early. And there is another point that I believe is worthy of consideration in these conditions: that is, if we institute any surgical procedure too early, before nature has done its utmost to protect and wall off and form adhesions between the lung and chest wall, we are apt to encounter difficulty and trouble.

During the winters 1916 to 1917, those are the winters I had nine cases of empyema to deal with; the following winter five, and the following winter four. As I say, I have resected freely, instituted thorough drainage in all of these cases, and none of them have exceeded six weeks, complete closure of the wound, and so far as the empyema or the pus cavity was concerned it was a thing of the past. I have one case in the hospital at this time on which I performed a rib resection that had a minor thoracotomy along about the first days of January of this year. This case was operated about two weeks ago.

As I say, I am not in position to discuss this phase any more than that I have some very strong convictions along the line of drainage in these cases. Personally, I shall, until I find a better method, continue free drainage.

Dr. Jas. L. Shuler, Durant: I want first to express my appreciation of Doctor Nesbitt having selected this subject. If he had not, I guess I would have been simple enough to have attempted a paper on that myself, not that I do so much work, but it seems as if I have been unfortunate enough to have a great many cases in the past ten years or more, a good many within the past year, and I always take an interest in the general method of operating. But there is one point that I want to emphasize in my own work, and that is I have never resected a rib but one time, and that was a good many years ago, and I have not found the necessity for doing so.

I always put in a reasonable sized tube and let it remain, as stated in the paper, ten days or more. Most of the work I have had to do, or a great deal of it, has been out of the sanitarium and left with the physician to attend to. I have always instructed them to keep a tube there for at least ten days. I have but one remaining now, and that was operated some four or five weeks ago, the case twenty-five miles away. There is quite a discharge from that yet. Just the morning before I left I removed the tube after some two weeks from a little fellow, and I am sure it will heal, because there was no pus discharge and very little secretion.

At one time I had an old mother to deal with. I was called by another doctor, and she was not going to have any cutting done on her boy, and I couldn't persuade her. He had just returned from the service, and the attack overtook him on his way home. It had been two weeks or something like that. I thought I would only see, and I put in a good sized trocar and slipped in as large a tube as I could get in, and instructed the doctor to let it stay there. Within about two or three days he got it out and of course couldn't get it back without cutting a hole. So, they went along for a few weeks or a month maybe until he could hardly breathe. The old lady was rather vexed, but we opened up, and it ran on, I don't know, they caused quite a good deal of dispute about it, and the doctor wore out his patience with them, finally the boy came to me and I drew a quantity of poisonous pus out. I don't know how, but somehow he got well. That is the only one I know of that ran on for two or three months, except one young fellow on whom I used bismuth paste who got well in six months. I think I have never known any child, old man or any one else but what I could remove the underclothing and put in a drainage tube and secure free drainage all the time. I do not object to resection, because most men that do the work do that, but until I find some fault

with the results as I do it I do not want to change for fear I may have different results. I really appreciate any word along this line as a matter of help to me. I am glad to take it because it is a question constantly before us. While I have not done as many as have reported here, it has been my good fortune never to have lost a case.

I noticed the doctor took occasion to warn us not to operate too early. Now, on that proposition I think I would make a mistake if I did not tell my experience. I have in several cases, three or four at least, discovered the accumulation in the pleural cavity and have made haste to drain it off before it has thickened. Each time I have discovered I have been able to remove the tube in a week or eight days without any formation of thickened pus. I open freely and take a vessel and hold it under the opening, in many of the cases that came under my observation that way, there is a spurting of the pus, and that of course I usually watch. I pry it open so that any mass of the fluid there could be drawn out through the opening, pry the ribs apart or pry it the other way. However, I am not especially technical in this work. I do it under local anesthesia on very nearly all, unless a child and too restless, usually then I anesthetize them.

I appreciate the paper, and will get some points that I shall use to advantage, and especially I want to say to Doctor Nesbitt I am glad he selected the subject before I did, because I would have attempted a paper, and I am sure it would not have been so interesting.

Dr. W. B. Newell, Enid: I am glad the last speaker said what he did. After having heard a great many men speak of empyema and the treatment of it, I had just about come to the conclusion that I was the only one in the country that just split them open and drained them without cutting out part of the rib. The fact that this doctor over here does it the same way reinforces me in confidence in my treatment, for I never had one that did not make a recovery in a reasonable length of time. I use just a simple incision, making free drainage and put in tubes, and the first cases I had that I opened I did not even put in tubes. I used a piece of sterilized gauze four inches wide, several thicknesses of it and pried the incision open and slipped it between the ribs and let it drain through that for a while.

Dr. George Strickland, Claremore: I think Dr. Nesbitt is due considerable credit for the paper; there is one phase, however, that has not been touched on which I have adopted somewhat in my own practice that I like very much, and that is resection of the lower half of the rib with a rongeur after you have made your incision down on to the rib, and then resect back the periosteum with the elevator, clip out sufficient room for your tube to admit the rongeur, and you then insert your hemostat or whatever you are going into the cavity with and slip a tube down and stitch it in place. I believe that is a better method where there is any danger of the rib compressing the tube and where you do not care to resect the rib.

Dr. A. S. Risser, Blackwell: It seems to me that one of the first questions we have to settle when we take up the question of aspiration or thoracotomy is this, What is the etiology? Now, it is a well known fact that the discharge in the ordinary "flu" pneumonia is a thin pleural discharge; with old fashioned pneumonia causing empyema; we have a deposit that precludes you getting a large amount through the ordinary tube. We have first of all to consider the etiology. Then, there is another thing we have to consider: Is the empyema a primary condition or is it a complication? In other words, we have a collection of fluid in the chest cavity. We have also a "flu" pneumonia, and we have just "flu" without having pneumonia. It seems to me we have to settle in our own mind the question, Is the agency that is weighing down our patient due to pneumonia, is it diagnosed in the pleural cavity, is it due to mechanical obstruction? We have to go into the etiology of the thing before we can decide what to do. If we have a simple mechanical obstruction, "flu" pneumonia with "flu" discharge, aspiration, I believe, is indicated. I believe that the testimony of the Empyema Commission

will bear out that statement. In other words, in the early years of the war our men at the front were confronted with this entirely new condition, the ordinary classical, so-called operation of thoracotomy, that is to say, a large incision and drainage, included practically all of the treatment. But it was found first of all that the mortality following the old-fashioned thoracotomy operation was tremendous. I believe the doctor did not state it all. I believe that statistics in some places will show as high as 50 per cent.

Now, then, first of all you had a tremendous pneumonia which came as near killing your patient as possible. You add on to that loaded obstruction, nitrogen from half the body, you add toxic fluid into the compressed pleural cavity. Which of those is first, which last? If you have a mechanical obstruction, then drain; aspiration.

There is one other thing which I shall have to refer to. If you drain those cavities, do not drain all the pus out in the first place. When one chest cavity is filled full of pus, the mediastinum is pushed way over to the other side. You let all that pus out and you have a fluttering of the mediastinum, a secondary heart and respiratory disturbance which often is enough, with the pneumonia, to kill the patient. We have to differentiate our cases. Let us then realize the value of studying such reports as this of the Empyema Commission, the reports of these men who were at the front and went through the mill.

There is another thing we have to consider; the difference between the acute case and the chronic case in empyema. Now, that is the big question that has not been settled. In order to decide whether the case is acute or chronic we have to know its etiology, and we have to know its method of treatment, and we must know how long it has been running.

By the way, it has been my misfortune within the last few months to run into a lot of cases which have been undiagnosed anywhere from three months to twelve years, and it is inexcusable, men, to allow a patient to go anywhere from three months to twelve years with some cavity in his chest containing from a pint to two quarts of fluid. For instance, I speak very feelingly, because, gentlemen, within the last two weeks I had the sad privilege of operating on my own brother. He had the "flu" in January. Instead of getting well he got worse. He lost weight, went from 200 to 140 pounds, lost strength, and he was a walking wreck. In fact, he could hardly walk; he had edema of the feet. I can't help speaking in this way, my feelings are very strong. We ought not to let those things get by. A tremendous cough, continually day and night, he could not lie down, yet he was allowed to go undiagnosed.

On Monday of this week I operated upon a woman who for twelve years carried that sort of thing in her chest. We must be more methodical in our examination. When we make a diagnosis and are sure of it, we ought to stand on it.

That brings us to the question of method of operation. I believe in cases you can not possibly get by unless you do a thoracotomy, an extensive resection. There are three factors with which we are mainly concerned; one, the re-expansion of the lung after the fluid is removed; second, pulling together of the ribs, and ribs assuming a more vertical position in closing a chronic cavity; and, third, the rising up of the diaphragm. We have to consider those factors when we come to operate our chronic cases. It doesn't make any difference whether we do the extensive rib resection, or whether we do a simple thoracotomy.

Dr. Ross Grosshart, Tulsa: Dr. Risser has cheated me out of my talk. He hit the keynote, in my judgment, on empyema. There is no set rule. Your diagnosis is first in everything. One doctor here said that he had occasionally just opened the chest and got his fluid before it had gotten bad. I think that condition probably was not pus. It was effusion. The next condition that comes in mind when we come to operate; it is like a pus cavity anywhere else. If you had an acute appendicitis and got to the case before it had caused or started to cause a localized peritonitis, you would operate it and close the belly. If you found the case

was on the border line, you would probably defer your operation with safety to your patient by waiting until the wall was perfected and the immunity so raised the resisting power, then you would operate on your patient. I do not think it differs anywhere in the body where you are dealing with pus, whether it is in the lung, whether it is in the belly cavity, or otherwise.

Of the simple operation, that is, just opening between the ribs and draining, the doctor (Risser) has told you that you have several conditions that take place. You have the displacement of organs, the shock to your patient by letting the pus out too quickly, and these organs trying to right themselves and becoming agitated, that the breath becomes distressed, and you may lose that patient on the table or a few minutes afterwards. You have to be governed by the conditions there. But I believe it has been handed down to us, and still stands so far as I know, as he told you, that there are three ways in obliterating the pus or empyemic cavity. One was by the expansion of the lung, the next was by the ribs adjusting themselves to narrow the cavity, and the third was the raising of the diaphragm. But it was my teaching, and it has been my observation since that you had to get pleura to pleura to get this healing process established, and if you had a lung that was tied down with one of these old chronic conditions existing, as he just told you about, open that cavity, as the essayist has said, and put in your drainage tube and you will have a pus cavity from time immemorial until you put pleura to pleura. Your Dakin's solution, your two per cent formaldehyd and your filling up of the cavity with your bismuth paste will not suffice to heal this condition.

I have in mind now a patient that had a chronic drainage lasting over a period of about twelve years which resulted from a stab wound just about the third intercostal space. The lung had collapsed. The ribs had done all they could do. The diaphragm had come up as far as it could come, and still the man had a chronic discharge, or chronic pus cavity. It had been filled with bismuth paste for about a year's time at intervals, put in a time or two; he had become toxic from the arsenic, perhaps, his gums were blue, and all of those procedures had been carried out, still he had a pus cavity. By splitting over the ribs and taking out enough of the bony frame work which brought pleura to pleura, the man healed readily.

Dr. F. M. Sanger, Oklahoma City: The discussion reminds me of a Sunday School class. After you hear all that has been said, the man is usually of his own opinion.

I noticed in one of the hospitals where I was that we first for a while tried the simple drainage, but we did not have very good success with it. About thirty-seven per cent of them did not get well, and after that we began doing extensive rib resection, and only about nine per cent of them died. The rest of them got well.

As Doctor Grosshart has just said, I believe we must get pleura to pleura because in every case I have noticed, and those I have noticed in my own limited experience, the cavity did not heal up until the pleura came together, or rather, the wound did not heal until the cavity was closed. That has been my experience. The only case on which we had to do the Schede operation after the patient had had all the chances to recover with all the different treatments we knew of, as soon as we did that and the lung pleura was allowed to come together, that man got well and was finally discharged as a sound man.

Dr. McLain Rogers, Clinton: In speaking of early drainage, with that must be considered the type of infection. One gentleman in discussing this paper says he will drain at any time he finds a fluid in the cavity. I feel that is rather a broad statement, if you take into consideration streptococcus infection. The tendency of a virile infection like streptococcus to be fluid and remain fluid for some time, and the fact that the walls collapse with that type of infection almost invariably when you do drain, and in view of the fact that waiting for immunity is conceded an advantage, I think it is of considerable importance to know the type

of infection as an early consideration before you start the drainage. There is no dogmatic rule about draining those cases, and the essayist has been very charitable in his conclusion of the report to those who have their various ideas. In many cases of stab in the chest, surgeons who do a great deal of work find them coming in to them very often for redrainage.

Another thing you would want to know if you were just putting in a tube, whether or not you had multiple cavities, and men who worked in the war considerably, saw postmortems in these cases and many x-rays and who have taken them into their own clinics, know we have a number of cavities if we don't make a resection and explore those cavities you will still have trouble in the chest.

The Chairman, Dr. Ralph V. Smith, Tulsa: I want to sound one note of warning regarding bismuth paste. I had one experience. I inherited a case in Douglas, Arizona, which would not heal up, and I resorted to bismuth paste. This fellow developed a most virulent type of bismuth poisoning, as evidenced by the darkened area in a portion of the mouth, and he developed a most virile type of stomatitis and enteritis as well. I believe it was due to bismuth poisoning. I want to say you cannot undertake this bismuth paste always with a degree of safety.

Dr. Nesbitt, closing: Mr. Chairman: Some of the doctors spoke about having several pockets at the time of the operation. Now, our experience over there does not bear this out. We found that when we got into the main cavity and drained it that we got drainage to all the pockets and all the parts of the cavity at that time. However, sometimes we would find that pockets would become closed off later by adhesions of the pleura coming together and leaving a pocket where it had not healed behind that space; healed between part of the cavity and the opening. Our results along this line were backed up by x-ray examinations, and in the cases that died, by postmortems. We held postmortems on all of them, and we did not find any pockets that were not drained at the time of the operation.

In reference to delay in the operation, in a diagnosis of pneumococcus infection, we always operated as soon as the diagnosis was made. In cases of streptococcus infection, we did not operate until the fluid became purely purulent, sometimes a week or two. They would aspirate them as often as the conditions seemed to call for it, but would not open them up until it became frankly purulent. We did this for the reason we did not want to get a collapse of the lung with spreading of the infection.

In pneumococcus infection we found that by the time the pus was there, by the time the condition was diagnosed, with the firm adhesions the lung does not collapse, but if we opened up the streptococcus case early we would get a collapse. And along that same line we heard one of the doctors speak of fluttering. You get that in cases of extensive exudation, but not in cases of large quantities of pus. If you get pus filling the whole half thorax, the organs are so fixed there that even though you open it up you will not get that fluttering in the mediastinum.

One of the doctors in the discussion stated he was very partial to rib resection, and that he had seen cases of minor thoracotomy that ran along for a long time and did not get well. I do not doubt that at all, but those are cases, I feel, that have been neglected and have not been cared for properly. These cases of thoracotomy should be carefully cared for; should be in the hospital. At least, if they are not in a hospital, they should be under the care of a trained nurse, and if the conditions are such that you cannot have this care, I think the rib resection, or at least an opening in which you can get a very large tube is to be preferred to minor thoracotomy.

One of the speakers who discussed this, spoke about getting a clear fluid in the chest sometimes, but on drainage would clear up in a week or ten days. I doubt if that was an infective fluid, it probably would not have become purulent if it had not been drained. We had a number of those cases over there that we cleared up with aspiration alone, and never did get pus.

Now the question of room for a large tube in thoracotomy. We found no difficulty there in getting in a tube large enough. We used a tube one-half inch or a little larger in diameter, and soft rubber, and always found plenty of room between the ribs. Sometimes after these cases have run for a long time and the ribs have begun to get together, we would have to use smaller tubes of hard rubber to keep it from being closed off between the ribs.

One speaker spoke about a fibrin in the fluid interfering with drainage. That is true, but in my paper I tried to make that clear; that was the advantage of using the Dakin's solution. Dakin's will dissolve that fibrin.

Some speaker spoke about chronic empyema, that is, undiagnosed empyema. I did not treat of that at all in the paper for the reason that all of our cases were of short duration at the time we got them.

In some cases where it is difficult to bring pleural surface to pleural surface, which Doctor Grosshart insisted upon, and which is perfectly correct, we used, in case of necessity to operate on them, doing the Lilienthal decortication operation, which could not be covered in one paper of itself. I think if you will remember what I spoke of about the value of having the patient blow and expand his lungs, you will find that by expanding his lungs by blowing against resistance you will have very little trouble in getting them to force out the lungs to where it will meet the chest cavity and the diaphragm as they come to help close the cavity. In fact, in our last year's work there, we had only one case, which was a left apex, and couldn't get any action there by blowing to force the lung up into the cavity.

PULMONARY ACOUSTICS.*

LEA A. RIELY, A. M., M. D., F. A. C. P.

OKLAHOMA CITY, OKLAHOMA

Never in the history of medicine has there been a time when chances for studying the acute respiratory diseases have been so good as during the past eighteen months. Never has there been a time when such radical changes have occurred as to the pathology and interpretations of physical findings. The last condition may be due to better facilities for studying them in correlating the antimortem and postmortem findings.

Strangely coincident with the above facts, we are celebrating the centennial of the life and achievements of that great clinician, Laennec, who so much anteceded his own time that we are developing but few ideas contrary to his observations and constantly using his principles in our own upward progress in physical diagnosis. It was he who while observing some children calling to one another through a hollow log conceived the idea that a paper rolled up would also transmit sound better and enable him to pick out certain spots of the chest at random for clinical study. Hence the stethoscope, that armamentarium of clinical medicine, was conceived and had its being and at this day is the most used of any single instrument in a physician's equipment, and without which one would be severely handicapped. The binaural stethoscope is used more in this country, but the monaural stethoscope is used a great deal on the continent. I have even seen one eccentric diagnostician using a piece of broomstick without a hole through it as a stethoscope.

An editorial in London Weekly Echo, dated 1751, reads: "Leopold Auenbrugger who takes care of the patients at the Holy Trinity Hospital at Vienna, has been arguing that he can tell whether a chest is normal or if it has fluid or other things in it by thumping on it with his fingers. De Haen, Spreugal, Baldinger, and a lot of others say he is talking through his hat, but Holler he tried it, and says Leopold is right."

*Read in Section on General Medicine, Mental and Nervous Diseases, Annual Meeting Oklahoma City, May, 1920.

History accredits Hippocrates with a diagnostic knowledge of being able to recognize fluids in the chest.

To Skoda, perhaps, we are indebted for the first to recognize physics of sound as applied to the chest. Although little was known of the physics of sound in Skoda's time, his acoustic refinements were, in some respects, an improvement on the long descriptive terms used by the French clinicians of that period; however, to Laennec we are indebted for the word "aegophony" which is still in general usage. Skoda's resonance, the drum-like sound heard in pneumonia and pericardial effusion, is a permanent part of modern diagnosis. He classified the different sounds in the chest, arranging them according to musical pitch, ranging from full to hollow, clear to dull, tympanitic to muffled, high to deep.

He had no interest in the human or psychic side of his patient—cared nothing about the treatment, but wanted only a postmortem to verify the physical findings he had diagnosed. In 1839 he wrote: "We must first determine every possible variety of percussion sound and ascertain the conditions on which each variety depends, and then endeavor to reconcile our observations with the well ascertained laws of sound." The physics of acoustics had lagged very far behind optics and other physical principles up to this time.

Austin Flint in America stands among the pioneers in developing both the practical and theoretical aspect of pulmonary sounds. His teachings are elaborated upon in the new book of Norris and Landis, and Montgomery says his book is the fount from which the most of our knowledge of acoustics emanates.

Jacob DeCosta's ideas of percussion have placed him among the greatest teachers in America. His book, as is also Flint's, is being revised and used in most of our schools as text-books.

The numerous accessory means of diagnosis, such as the x-ray, thermometer, sphygmomanometer, etc., is not conducive to the good clinicians which we formerly had, but men who are well versed in physical diagnosis have less use for the x-ray. I heard Pottenger say that his hands were his x-ray.

Williamson, McKenzie, et al, are decrying the fact that we are depending too much on instruments of precision and not enough on our own "*tactus eruditus*."

One of the most essential qualities of a good diagnostician is that he have a good musical ear, otherwise, he will not be able to distinguish between quality, pitch, duration and intensity.

We speak of quality or klang (Montgomery). We have as varied an idea of that as we do the various kinds of musical instruments in a band, and each chest is a law to *itself*.

Pitch depends on the vibrations and the human ear is tuned to hear between 40-36000 vibrations per second. The higher the pitch, the greater the vibrations, and vice versa, the higher the pitch, the less the duration, as the tissues are under greater tension and cease vibrating sooner.

Intensity has the difference in carrying qualities as the neighing of a horse or the lowing of a cow in a valley has different carrying qualities. These may be greatly modified by: (1) diffusion of sound, (2) absorption of sound, (3) reflection of sound, (4) resonance.

Although playing a less important role in modifying the acoustic phenomena of the chest than do diffusion or reflexion, yet resonance at times is an important factor. The chest is a most perfect resonator and it is said the violin was modelled after it. It is to be noted that whereas diffusion, absorption and reflection modify all sounds in like degree, providing that intensity is constant, resonance is selective and amplifies sounds of different pitch in different degree. Conditions favorable to resonance of sounds of one pitch may actually diminish sounds of another pitch.

In addition, sounds from different sources may come together and thus sounds will be superimposed upon one another and a condition known as interference result, causing blurring of sound. Sound waves are conducted and may be reflected, re-

fracted and interfered with or broken, giving rise to beats. Sound waves are not conducted in a vacuum. The laws governing reflection and refraction are the same as those governing light. When a sound wave travelling through one medium meets a second medium of a different kind, the sound waves are communicated to the second medium with a velocity and direction depending upon the density and elasticity of this *medium*. As an example of this we have the fact that vocal resonance may be diminished and yet the whispered voice sounds present over a pleural effusion. This phenomena is dependent on a consolidation, often being immediately back of the effusion which imparts a much more definite sound to the fluid and thence to the chest wall. It also depends on that quality of sounds wherein the tissues have a certain pitch and necessarily respond to that pitch as one string on a piano will vibrate when another instrument of equal number of vibrations sets it in motion. Our physics used to tell the story of the old fiddler who wagered that he could topple over a pier in the river. He got the keynote of the pier and began to play away and the pier began to sway from side to side, when he was forced to quit and was able to collect his wager.

The reason why increased vocal resonance in a child's chest is more common than in the adult is that the chest walls are smaller, more elastic and therefore better conductors.

Vocal resonance in pneumothorax is diminished unless it is connected with a patent bronchial tube when it is increased.

Increased vocal resonance is present in the *relaxed* lung immediately above an effusion because of the tension. The sounds are transmitted more clearly than through a normal lung.

Montgomery in his pulmonary acoustics says the reason of diminished or absent vocal fremitus in pleural effusions as explained by J. C. Wilson in his Physical Diagnosis, is: "Diffusion and weakening of vibrations passing from one medium to another." Laennec, Skoda, Walshe, William Fox, Samuel West, Sahli, Osler, Holt and Cabot give no satisfactory explanations of the above fact.

DISCUSSION.

Dr. L. J. Moorman, Oklahoma City: In bringing this paper to us Dr. Riely has displayed a great deal of courage. This is a most difficult subject to discuss, and a very difficult subject to teach. It seems to me that the question of teaching acoustics of the chest is one of the most difficult problems we have. In the first place the understanding of the acoustics of the chest is largely dependent upon one having a musical ear. It is not necessary to know music but to have an ear that can divide the sound into its elements, then perhaps you can become experienced in the acoustics of the chest. We can talk about the acoustics of the chest; we can tell of things we know about, but we cannot make the other man appreciate it. I find this difficult in trying to teach the acoustics of the chest to the medical students. This reminds me of a little story of a doctor called in consultation. He examined the patient and said he had pneumonia. The doctor said, "How in the hell do you know?" He took the stethoscope and listened and said, "What in the hell do you hear?" We may know but we cannot teach the other fellow. Dr. Riely's paper dealt largely with the percussion, but you have to cultivate not only the ear but also the touch in percussion—you must cultivate your ear to know acoustics of the chest, and if you ever know the acoustics of the chest you must examine the chest. In percussion we have to deal with solid tissues and tissues containing air; we have various degrees of resonance over the tubes containing air. We have in the chest not only these solid structures, the heart for instance, the absolute dulness of the liver, but we have various degrees of resonance. We have solid structures, we have air contained structures and we have bone to deal with.

Dr. Riely: In this question of the acoustics of the chest, as Dr. Moorman has said, you have got to first know what the normal chest is, before you get to know the abnormal chest. I am aware we do not use these methods of diagnosis suffi-

ciently. I do not think we spend enough time on this means of diagnosis. All of our patients are not able to have x-rays on every occasion. X-rays are not always accurate. You have got to correlate the two systems. Like Oliver Wendell Holmes' story of the stethoscope, of the young man who buys a stethoscope and waits for the patient to come in. While waiting for that patient a spider comes in and spins a web in his stethoscope. In the course of events an unwary fly comes on and is caught in the meshes of the web and before the fly is dead the young man is called in consultation. He places the stethoscope on the patient's chest and he hears the death struggle of this fly and he does not know what to make of it. He recalls all the murmurs of the chest he has heard. He finally found the trouble in his stethoscope. I am not against the use of these instruments of precision, but we must make better clinicians of ourselves. We had great clinicians before these instruments of precision were developed

THE VALUE OF PRENATAL AND INFANT WELFARE CLINICS.*

C. V. RICE, M. D.

MUSKOGEE, OKLAHOMA

The State Board of Health could not accomplish any greater good than that of establishing a prenatal and infant welfare clinic in every county in the state, to be conducted by a special trained nurse. The nurse to work in harmony with the State Board of Health physicians or the local physicians of that community. The work of that clinic to have three divisions: First, the care of the unborn child; second, the care of the infant during and immediately at birth; third, the postnatal care of the infant.

One-third of the total deaths of infants under one year occur in the first month of life; two-thirds of the deaths occur in the first ten days. These conditions can largely be overcome by the proper prenatal and postnatal care of the infant. The expectant mother should be instructed at these clinics; the danger signs of pregnancy, advice as to diet, urine must be examined at regular intervals, and the blood pressure taken. By so doing will materially reduce the maternal as well as the infant death rate. Proper pelvic measurements would cull out the mothers that would need hospital care and avoid sending them to the hospital after various operations had been tried in the home and then sent to the hospital after it is too late to save the baby, and perhaps the mother's life is lost too. If not, she will be a chronic invalid for life. Too much stress cannot be laid on a community rural nursing service pertaining to the prenatal and infant welfare work. When we think of the great death rate caused by child-birth in the child-bearing woman, it rates second to tuberculosis. Typhoid fever is cut in half; diphtheria is reduced to less than half, and our most dreaded disease, tuberculosis, is markedly reduced, and that condition which is considered to be normal and natural in every respect the death rate is second to the most dreaded tuberculosis. These facts point to the need in this country of a higher standard of the care of our expectant mothers. There is not a condition that causes so much anxiety to the members of the family as that of one of theirs in child-birth. There is not a condition that requires so much skill and judgment in time of stress or in abnormal cases, and still there has been so little done by our states to improve the conditions. Many states permit physicians to practice without proof that they have witnessed a single delivery. Twenty-five per cent of medical students graduate without personally attending a confinement. Fifty per cent never see an abnormal case. Nurses are given very little obstetrical training; general hospitals give less desirable space to maternity wards than to others. The profession itself does not sufficiently dignify obstetrical practice. The work is hard; the standard of charges is low in comparison to

*Read at the State Public Health Conference, Oklahoma City, October 13, 1920.

surgery, yet obstetrics requires as high a degree of skill and knowledge and there are two lives at stake in each case. Twenty thousand mothers die in the United States in child-birth each year; 250,000 babies die during child-birth each year. Blindness caused by neglect during birth is estimated at 60,000. Imbeciles and cripples cannot be estimated, but hundreds of thousands are made at child-birth. Women injured or made invalids by child-birth cannot be estimated, but there are hundreds of thousands. The mortality and morbidity in these cases can be greatly reduced by the proper prenatal care at the confinement, and post-partum work. This can only be brought about by interesting the lay as well as the medical profession in the value of prenatal and infant welfare clinics. There is no reason why such a clinic cannot be put in operation in every county in our state, where mothers may obtain information as to the proper care of themselves during pregnancy as well as of their babies. We must raise the standard of maternity. Prenatal as well as infant welfare clinics are needed. Can a function that kills thousands of women annually and is responsible for a very large infant mortality be called safe? The closer the supervision during pregnancy and the better care at the time of delivery, the fewer will be these complications. Greater interest in the subject surely will lead to the development of new and successful methods for the prevention of these needless deaths. The prenatal and infant welfare clinic is not sufficient, but we must have ample hospital facilities to which these abnormal pregnant mothers and sick infants can be referred for proper treatment and care.

Our state is now doing wonderful work in tuberculosis, but when she raises the prenatal and infant welfare on the same plane, it will certainly raise the whole standard of life. It will raise the standard of women and children and when we raise the standard of women, we raise the standard of the race.

In conclusion, then, the value of the prenatal and infant welfare clinic is as follows:

First: To guide our maternity cases safely through their journey to motherhood, with the least possible harm or injury.

Second: The teaching of the proper feeding of infants and children with the importance of maternal nursing.

Third: The value of fresh air, sunshine and clothing.

Fourth: The early recognition of abnormal and defected children. That these conditions may be rectified before there is a permanent impression.

Fifth: The awakening of general interest in the prenatal and infant welfare work.

INFLUENZA AND HYPOPHRENIA.

Cases are cited by Karl A. Menninger, Topeka, Kan. (*Journal A. M. A.*, Oct. 16, 1920), to illustrate the interrelation of influenza and feeble-mindedness. They are placed in six groups: (1) hypognosis; (2) dysthymia; (3) parabulia; (4) hypophrenia with neurologic manifestations prominent; (5) hypophrenia with psychic manifestations prominent, and (6) hypophrenia with psychopathic manifestations prominent. A most remarkable case of amelioration by influenza is also cited. This was the symptomatic improvement of a severe grade of feeble-mindedness immediately following an attack of influenza. On the whole, this study aims to demonstrate the pragmatic principle of studying effects. Menninger claims that this small series of cases represents perhaps the largest collection of cases dealing with this feature of somatic-psychiatric interrelations, and from it may be concluded that aggravation is the chief process represented by the interreaction of influenza on hypophrenia, where any effect at all is perceptible.

SELECTION OF SITES FOR STATE'S TUBERCULOSIS SANATORIA.

A. R. LEWIS, M. D.

STATE COMMISSIONER OF HEALTH
OKLAHOMA CITY

When the Seventh Legislature by House Bill 380 created three tuberculosis sanatoria it also named certain provisions which would govern, to a large extent, the location of these sanatoria.

These were, in brief, that the state be divided in three districts as nearly equal as possible in population, and that in each of these districts a site be chosen as near the center as possible with due regard to accessibility.

Another, and by far the most important provision, was that the State would accept "suitable" lands (in fee simple), for the sites of these sanatoria. And, since there were no funds appropriated for the purpose of purchasing sites, it naturally evolved that the municipality offering the most attractive piece of land was looked upon with most favor by those who had the matter of selection in charge.

Acknowledging the requirements of the law as the fundamental basis in selection of sites, there were also other points taken in consideration, such as altitude, accessibility, air and sunshine, drainage, natural advantages, and general surroundings.

After investigation and careful consideration, Clinton, in Custer County, was chosen as the site for the Western district of the state. Although not a choice piece of Nature's landscape, covered with trees and all kinds of vegetation, yet the site is admirable from the standpoint of altitude, sunshine and drainage.

The 160 acres which comprise the site and which were donated to the state by the citizens of Clinton are on a broad ridge, higher in elevation than any of the surrounding country. The site has ideal drainage, is surrounded by pure air, and is so situated that the buildings will catch full benefit of the sun's rays.

Another advantage of the Clinton site is that it is only about one mile (south) from the city. This makes it easy of access from all the railroads. And, moreover, since the sanatorium will have to depend on the municipal plant for its electric current—likewise extension of the telephone wires—this point of proximity becomes a very vital one.

The selection of the site for the Eastern district was not made until several months later than that of Clinton, due to the fact that the appropriation for the second \$100,000 sanatorium did not become available until the beginning of the fiscal year, 1921.

A number of municipalities in this part of the state became interested and made bids for location of the state's second sanatorium, but Talihina's offer—that of 640 acres of land situated on the side of a near-by mountain—was concluded to be the best, and was therefore, accepted.

Considered purely from the standpoint of dollar-value, this site far outstripped any other that was offered and over and above this point of intrinsic worth, it is an ideal spot for a tuberculosis sanatorium. It is a quiet, attractive place, located among the pines and is supplied with a mountain spring of the purest water.

A macadam road, leading out from Talihina, passes near by. This makes travel to and from the sanatorium rapid and easy in all kinds of weather. Contract for the buildings has been let and construction will begun as soon as possible. When finished, the state will have in the Talihina institution a place peculiarly adapted to the treatment of nervous, tubercular patients.

That the general health of the patient has a distinct bearing on his chances for recovery from tuberculosis, is a matter no longer disputed by physicians. Likewise, a "well contented mind" has much to do with the bodily health. The outstanding appeal of the Talihina location is the "restful" atmosphere and this, no doubt, was one of the important factors considered by the government when it chose a site near that now occupied by the state for a federal hospital.

The third sanatorium provided by the state is for the treatment of tubercular negroes. The site for this was selected near Boley, in Okfuskee County. The buildings, now practically complete, stand on a gradually inclined hill just to the south and east of town—a distance of about one-half mile. High and dry with an abundance of sunshine and plenty of fresh air, the Boley site possesses many of the virtues of a good location. But the landscape and surroundings, like those of the other two sanatoria, is not considered “perfect” at the present time, and it is the intention of this department to improve the natural advantages as the legislature provides funds.

PROCEEDINGS OF THE ST. ANTHONY CLINICAL SOCIETY.

DR. CURTIS R. DAY, President.

DR. J. F. KUHN, Secretary.

OKLAHOMA CITY.

DEATH REPORTS.

Dr. Curt von Wedel: *Bronchopneumonia, post-operative.*

Mr. J. M., age 61, entered hospital complaining of gastric distress, beginning about four hours after eating. This distress had been noticeable for two or three years, but had become worse during the last few months. A diagnosis of duodenal ulcer had been made in two different clinics.

Physical Examination: A thin, somewhat emaciated male. Chest negative. Abdomen negative except for pain on pressure over the ensiform cartilage.

X-ray Examination: Obstruction of stomach with retention of over twelve hours. Cap of duodenum very indistinct and irregular. Marked filling defect in lesser curvature of stomach.

Laboratory Findings: Gastric contents not particularly abnormal. No blood in stool. Wassermann negative.

Diagnosis of gastric carcinoma was made and operative procedure instituted. A mass, seven cm. wide, was found on the anterior surface of the stomach, just inside of duodenal vein. The whole end of the pylorus seemed to be involved, and the mass was firmly adherent to head of the pancreas. A partial gastrectomy with posterior gastrojejunostomy was performed—a typical Billroth No. 2. Part of the head of the pancreas was stripped away, the raw surface cauterized, rutned in and covered with peritoneum. The stump of the duodenum was mobilized and buried into the head of the pancreas. Abdomen was closed without drainage.

Pathological Report: Chronic indurated ulcer with a large amount of surrounding inflammatory tissue.

Post-operative Course: On the second day patient had considerable gastric distress extending over a period of eighteen hours, which was relieved by gastric lavage. From this on, patient rapidly grew better, took his meals with a relish, and save for one slight attack of diarrhea on the eighth day, which lasted only a few hours, and was probably due to an excessive egg diet, did well until the fifteenth day. He had been out in a wheel chair that day. That night he had a chill. The next day his chest was solid. There was no evidence of infection anywhere, other than in chest, neither during the post-operative course was there any phenomenon which would suggest pulmonary infarct. He died in forty-eight hours.

Autopsy: Showed perfect healing of all the surgical lesions. The lungs showed extensive bronchial pneumonia with multiple small abscesses.

CASE REPORT.

Dr. J. C. Mraz. *Renal Tuberculosis.*

Mrs. W. W. R., age 47. Occupation, housewife.

Family History: Negative.

Personal History: Usual exanthemata during childhood, good recoveries. Typhoid fever 17 years ago—duration two weeks—recovery uncomplicated. "Flu" one and one-half years ago—mild attack. Menstrual history negative—passed through menopause four years ago without incident and has had no flow since. Three para—oldest child 29 years, youngest 26. Labors all normal except last, when she sustained some perineal laceration and eight days later developed a septic fever with hard rigors and pelvic pain which persisted for eighteen days.

Present Illness: Following the attack of puerperal fever 26 years ago patient was left with pelvic soreness and symptoms of bladder irritation. The latter symptoms have persisted and for past four years have been exceptionally severe. Has marked frequency (both diurnal and nocturnal), urgency and dysuria. Riding and jarring causes pain in bladder region. Has noted a little blood in urine a few times (terminal hematuria), a constipated bowel movement causes severe pelvic pain. Often has gaseous digestive disturbance with sour stomach coming on regularly half to one hour after meals and associated with heartburn. Has lost no weight. Does not tire easily.

Physical Examination: Negative except for abdomen and pelvis. Abdomen shows sensitiveness in right epigastrium and in hypogastrium. Especially sensitive to pressure over bladder.

Pelvic Examination: Perineum relaxed, uterus small and freely moveable. Both pelves seem clear and pain of examination seems confined to bladder.

Cystoscopy, under gas: Capacity of bladder, 175 c.c. Bladder contains a clear looking urine. Scattered over fundus of bladder are seen numerous ulcers varying from millet seed to pea size. The largest one is located about half-inch behind right ureteral orifice. Orifices not reddened or edematous. Ureters catheterized. Catheters (No. 6) pass to kidney pelves without obstruction. The segregated urines collected for laboratory appear clear.

P. S. P. Test: Simultaneously in six and a half minutes. Kidney pelves injected with 12 c.c. of sodium bromide solution apiece and pyelograms made.

Urinalysis: Mixed urine. Negative, except for small amount of albumen and occasional R. B. C.

Left kidney, urine negative. Right kidney, urine frequent hyaline casts and rod shaped bacteria resembling tubercle bacilli which did not stain deeply. Report of 24-hour specimen of urine shows numerous tubercle bacilli.

Dr. Paulus reports the following x-ray findings: Both kidneys injected with 12 c.c. sodium bromide solution. Good pyelograms were obtained. Both showed normal kidney pelves. The calices were distinct and found of normal size and shape.

In view of the above findings, I feel justified in considering this case one of renal tuberculosis. It is true that the finding of tubercle bacilli in the urine does not necessarily mean that there is a focus of tuberculosis anywhere in the urinary tract, for it is well known that tubercle bacilli may filter through normal kidneys, but the other findings in the case make the diagnosis most certain. The bacilli found in the urine were very numerous and the bladder contains multiple ulcers. Primary tuberculosis of the bladder is an extremely rare condition. Therefore, the kidney is the logical place to look for the origin of this patient's trouble. She has been advised to return to the hospital for another cystoscopy and the collection of segregated urines which will be diligently searched for tuberculous bacilli. Also guinea pig inoculations will be made. Further reports will be made on this case later.

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THIS IS THE OFFICIAL JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION. ALL COMMUNICATIONS SHOULD BE ADDRESSED TO THE JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION, 508 BARNES BUILDING, MUSKOGEE, OKLAHOMA. \$4.00 PER YEAR 40 CENTS PER COPY

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Failure to receive the Journal should call for immediate notification of the editor, 508 Barnes Building, Muskogee, Okla.

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

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EDITORIAL

PROPOSED HOSPITAL FOR OKLAHOMA'S DISABLED SOLDIERS.

A proposition that the State of Oklahoma erect a hospital adequate to the present and future needs of all ex-soldier, sailor and other war beneficiaries entitled to governmental care, is to be submitted to the next legislature in January. Tentative plans call for the erection of a permanent structure of as wide a scope as may be necessary and of the most modern construction, contemplating in its confines every need to render highest service; a board consisting of members whose occupations and offices are more or less permanent, it is proposed to charge with certain executive responsibilities. Copies of the detailed bill are not available at this time, but it is proposed that 10% of the rental will be paid annually by the War Risk Bureau to the State of Oklahoma, thus making the affair, in the end, of no cost to the taxpayers of the State, who will in the end, own the structure.

As is to be expected, in keeping with the eternal disposition of some of our men to knock everything not exactly coinciding with their superior views, therefore the whole plan is to be damned, the whining critic is already busily engaged raising his objections, even before he knows what he is objecting to. It will be recalled that this same inexcusable attitude was evidenced by the very persons who should have been found supporting the bill creating the splendid University Hospital, medical residents of Oklahoma City, simply because they were not placated by faculty appointments, were busy at the legislative meetings selfishly opposing that measure. We now see how shameful and forgetful of the doctor's true position was that attitude, but the lesson is never wholly learned; no doubt we now have over the State the same short-sighted opposition, certainly born of a mental state having no pride in its past performances and no hope for the future.

We should remember the many necessities and arguments calling for this. The men themselves bitterly complain of having to leave their homes, often of

comfort and convenience, to be housed in lean-to shacks, of the remnants of the old army cantonment buildings, which in no wise are proper protection. They justly complain of the intolerable conditions both sanitary and climatic at Base Hospital 25, Houston; our doctor of Oklahoma cannot be found who ever sent a private case to that delectable center of frogs, mosquitoes, undrained swamps and dank, moss-covered trees, San Jacinto and Buffalo Bayou do not compensate for these discomforts and real dangers. The writer is thoroughly acquainted with its impossibility as a health center, and wonders at the poor judgment which sentenced our boys to the place, with the usual "that or nothing" decision delivered as an ultimatum by the impracticables on whose poor judgment the Surgeon General of the United States Public Health Service must rely. With past tragedies fresh in our minds, only indignation results from the knowledge that the same mudholes always existing around that hospital, still exist generally as indictment of those responsible, and of course, the same mosquitoes still entertain the boys, not even taking a recess for the winter months.

The cry is already heard that Oklahoma's private hospitals are abundantly able to care for the needs of these men. Everyone familiar with actual conditions as to hospital facilities knows this is not true in any respect. Neither Tulsa or Muskogee can begin to care for all the needs of their civilian populations for three-fourths of the time, while Oklahoma City has more institutions, they too, are generally up to capacity. Some selfishness may induce a part of the objections, and that results from knowledge that probably the objectors locality cannot have the proposed institution, so he raises the tax-payer howl. That is untenable, for the taxpayer, in the end will own a magnificent structure, which reverting to the State will be found ready to fill the needs of hundreds of the State's disabled, always unprovided for as they should be if our duty to society is rendered.

We have recently had humiliating evidence of the results of indifference and selfishness, of the lack of co-operation among ourselves, enough of it to bring the blush of shame to our cheeks for many years. Let's have no more of that type of reversion to the dark ages, but, for the sake of the men, their families who would like to have them at home, to maintain a proper pride in our growing institutions, build this hospital and permit highly capable Oklahomans to care for "our own."

THE CAUSE OF IT ALL.

Spilled milk lamentation is about the most unproductive matter one indulges in as a rule, but attempt to analyze the cause and probable results of defeat of Senate Bill 111 is proper, possibly profitable in the future, after some of our large element of medical indifference realizes the thing their idleness and selfishness has permitted to occur. Impossible shortsightedness is the midlest characterization applicable. With the examples of California and Oregon, who on the same day overwhelmingly defeated similar measures in their states, which result was brought about by the work of an organized profession, the great universities and an educated citizenship, Oklahomans must realize now that from the scientific and medical educational standpoint we cut a rather sorry figure.

The many causes operating seem to have been: First, lack of realization of the fundamental importance of the measure, inertia and indifference, a great deal of selfishness, and in some instances pure obstinacy on the part of our membership. One individual upon whom we had wasted more than \$200.00 defraying his delegate expenses, while that expenditure was pending and imperilled, "liberly" donated a pitiful \$5.00, and after milking the association and having no further selfish axes to grind, exhibited bold manliness by not only refusing to contribute a penny but insulting a former benefactor by proclaiming that he was against the stand the majority of his profession had taken. This is a humiliating episode of many.

While a great deal of splendid, voluntary and individual work was performed in many counties in addition to contributions to carry on the general work, con-

spicuous among these being Washington, Delaware, Garvin and Atoka counties. A great deal of misdirected work went for naught and considerable efforts were required to offset some of the damage done; in one instance circulation of the report that the silent vote counted for our contention, which was wholly not true, had to be undone by the issuance of hundreds of letters at a time when every energy should have been used otherwise. Tulsa County should never be forgotten for its splendid aid in the matter, while the "Yes" vote carried in that county, their aid did much to lighten the load over the state. Notwithstanding many months prior warning that "free-lancing" would be dangerous, much of that went merrily on. Members of one county society having much advice and criticism to offer when they should have been at work, were found to be in the unenviable position of not having contributed a cent—long on advice to men who had contributed, but a little short otherwise—the bad taste displayed seemingly not penetrating their shell of osseous conceit. The Osteopath, formerly co-operating both by example, work and cash, was this time found "going it alone" if at all. Your officers had to hear from them the charge of bad faith, "double-crossing," and deception as their experiences at our hands on a former occasion of loose, but workable alliance. Recalling some of the facts surrounding that occasion, some considerable credence must be given their statements or beliefs; we can only urge that not all of us be penalized for the shifty acts of a few.

Second, complete accord among Chiropractics, Christian Scientists, all other off color cults and schools and their sympathizers; none of these had any disagreement as to what, when or how to do a thing, if there was discord they kept it for us, there was no idling, haggling over means, "beat the common enemy" was their slogan and they did that.

The results of this are disastrous to the progress we deluded ourselves into believing our state had made in medical matters. Appropriating three hundred thousand dollars for university hospital extension does not square with this vote, one set of contenders is wrong and the Oklahoman should have settled the matter once for all, either systematically continue to build up our institutions, properly control these dangerous cults or stop appropriations, stop building anything and give them free rein to indulge their dangerous practices.

There is no question now but what the Chiropractic will go to the legislature demanding a separate board, unless the legislature has the foresight to inquire into the means by which this vote was piled up, their claims to the superficial inquirer will appear reasonable, but that matter is for another day. The result of the vote will also embolden them in clumsy attempts to direct the legislature in other matters; for instance, it is just as reasonable for a Chiropractic and a Christian Scientist to oppose the erection of state hospitals, appropriation for life-saving, biologicals and serums as it would be for us, from our standpoint, to oppose appropriation for addition to the state university of the *Chiropractic School of Medicine*.

A sufficient "No" vote, in keeping with the views of qualified thinking Oklahoma voters would have settled this matter and created a safe precedent; now we have to face the fact that much of our work and advancement has gone for naught and orderly continuation of it will be more hampered than ever. We should note here too the reams of advice this office has recieved since election. "Now is the time to go to the legislature and get a law enacted." That and similar suggestions are useless and come from not realizing the full import of the situation. We went to the legislature, had our law enacted, it is true it was a compromise but it was the best we could do, we failed to sustain that act. It is well to appreciate that legislatures have little patience with medical propositions, that is sufficient advice to these would be advisers that we have had our day, opportunity came and we heeded it not, we were sleeping and did not awake.

It is to be hoped that should we attempt to do anything in this respect in the future that our contentious, non-co-operating element will fall in line and unitedly support the near ideal rather than reject much good because it does not conform

entirely to the high plane they would have us believe they occupy. This short summing up would be incomplete without acknowledgment of the splendid work performed by University students in vain attempt to sustain the ideals they have set as proper, and the services rendered by several brainy, energetic women of Oklahoma City, Blackwell and Enid, they deserved a better ending of the fiasco.

PERSONAL AND GENERAL NEWS

- Dr. J. T. Wharton, Picher, has moved to Miami.
- Dr. C. A. Johnson, Kiowa, has moved to Wilson.
- Dr. C. W. Austin, Brinkman, has located in Mangum.
- Dr. R. B. Mullins, Inola, has moved to Deerfield, Kansas.
- Dr. A. H. Culp and family, Beggs, will spend the winter in San Antonio, Texas.
- Vinita Rotarians endorsed a move to establish a county hospital for Craig County.
- Dr. W. A. Logan, Lehigh, has located in Oklahoma City at 115 1-2, West Grand Ave.
- Dr. and Mrs. T. H. Flesher, Edmond, announce the birth of a daughter November 29th.
- Dr. H. A. Wagner, Shawnee, is exhibiting his Victory Medal to friends, its inscription indicating participation in the battles of the Aisne, Champagne, Marne. St. Mihiel and Meuse-Argonne.
- Dr. J. E. Davis, McAlester, attended the Southern Medical Association meeting in Louisville, November 15.
- Dr. S. N. Mayberry, Enid, according to press dispatches has given \$10,000 to the Phillips Extension Fund, Phillips University.
- Dr. and Mrs. Earl D. McBride, Oklahoma City, visited the Louisville meeting of the Southern Medical Association in November.
- Bryan County Medical Society has transmitted to the Journal copies of resolutions of regret over death of John W. Duke, Guthrie.
- Dr. J. M. Hooks, Paris, Texas, has been appointed Fraternal Delegate to represent his state at the McAlester meeting, May 17-19-1921.
- Dr. J. L. Shuler, Durant, attended the Louisville meeting of the Southern Association, stopping along the way to "view the other fellow at work."
- Dr. C. H. Ball, Tulsa, Councillor, 7th District, attended the Radiological Society meeting in Chicago in December. Dr. Ball is Oklahoma's Councillor for that society.
- Dr. A. Barkley, Hobart, has been doing x-ray work in Kansas City and will take over the equipment of Dr. Leverton who has joined the United States Public Health Service.
- Oklahoma Baptist Hospital, Muskogee, has just installed a complete x-ray laboratory for diagnostic and therapeutic purposes. The work is in charge of Dr. R. N. Holcombe.
- Picher Hospital suffered severely from a fire in December. Eight patients, unable to move, were safely carried out by the nurses on duty. Fire originated in the boiler room.
- Dr. Orange W. Starr, Drumright, and Miss Lois Winn, Lawton, were married October 6th in the latter city. Their future home will be in Drumright where Dr. Starr is city health officer.
- Oklahoma City proposes to co-ordinate its public health nursing activities by appointing a superintendent nurse to oversee all such work, entire matter to be under the health department.
- Dr. J. R. Collins, Nowata, reported in the November Journal as having located in Claremore, has not moved his location. The error arose over the fact that Dr. B. F. Collins had located in Claremore.
- Dr. W. R. Leverton, Hobart, filled with disgust at the behavior of Oklahoma voters November 3rd, has taken the veil of seclusion, joined the Public Health Service and is stationed at Ft. Bayard, N. M.
- Oklahoma State Medical Association will hold its annual meeting at McAlester, May 17, 18 and 19, 1921, just one week later than that of the Texas Association, which meets May 10, 11, 12, at Dallas.
- Okmulgee County Society held its last 1921 meeting and election of officers December 13 at Okmulgee. Aside from the election, papers were read by Drs. J. L. Minor, Beggs; Harry E. Bieese, Henryetta; Thos. R. Lynch, Okmulgee.
- Dr. "Pat" Fite, Muskogee, used "direct action" when a lifter carried off his surgical case. Dr. Fite advertised that the contents contained some paraffin dressings, applicator, etc., useful only to a needy patient, and asked their generous return.
- Dr. A. L. McInnis, Enid, has been appointed Fraternal Delegate from Oklahoma to the Texas State Medical Association meeting in Dallas, May, 1921. Dr. McInnis is an ex-Texan, which doubles his capacity for doing good as our representative.

Dr. J. Hoy Sanford, Muskogee, will spend the months of January, February and March in St. Louis doing special work in genito-urinary lines. He will be associated with Dr. John R. Caulk and will spend his time at Washington University and Barnes Hospital.

University Hospital, Oklahoma City, is recipient of a Victrola to cheer the hours for its soldier patients. The gift resulted from a popular subscription originated by Mr. and Mrs. Hugh F. Hardin, Oklahoma City. They request that gifts of records, which may be sent directly to the hospital, will be in order and appreciated.

Dr. O. G. Bacon, Frederick, scored the loss of a second automobile by theft recently. The theft occurring in daylight indicates the boldness of some operators, and calls for enactment of the simple law involving registration and possession of an "abstract" of the car one is driving. If that law were enacted thieves would have a hard time moving, altering, storing or selling their loot anywhere.

Alpha Kappa Kappa Fraternity, a medical organization of Medical Department students, Oklahoma University, were given a smoker at Oklahoma City Country Club November 22. Claude B. Norris, Senior Class, acted as toastmaster. Drs. LeRoy Long, Dean, L. J. Moorman, A. W. White, A. B. Chase, Oklahoma City, and L. A. Turley and Gayfree Ellison, Norman, faculty members, were speakers.

Dr. John W. Duke Memorial Committee will have as its treasurer, Dr. Le Roy Long, Colcord Building, Oklahoma City. This committee proposes to follow the suggestion to raise sufficient funds to have made a permanent oil painting of Dr. Duke, which will be hung in the rooms of the Oklahoma Historical Society, State Capitol Building, Oklahoma City. Physicians desiring to contribute funds for this purpose are requested to mail their checks to Dr. Le Roy Long, Treasurer, Oklahoma City.

Why the Hospital? is the query of the *Durant Democrat* anent the proposal to establish one for our returned disabled soldiers. "Various municipal and private hospitals of the state are large enough and commodious enough to care for them," says the *Democrat*. Perhaps it is exceedingly healthy in Bryan County, at any rate no such ideal conditions exist elsewhere over the state. We should like to see the writer squeeze a millet seed into those of Oklahoma City, Tulsa and Muskogee most of the time; the walls would be strained in the attempt.

"Feeling their oats," the Oklahoma Chiropractic now looms to the front, emboldened by the results of the November election, and according to dispatches, among other things, proposes that "medical doctors" "every one of them in the State," be required to *pass an examination*. He has discovered that, on advent of Statehood, many "medical doctors" then practicing were given licenses without examination. While agreeing with the laudable principle, we must remind our "oat eaters" that there is such a thing as law, that what they wish was, will not necessarily, nor can it by any possibility be. A license to practice is a valuable right, once acquired it is not to be recalled by any known formula or process, except for violation of law.

The Physicians and Surgeons Adjusting Association, Kansas City, originates the unique system of "membership without fee," announcing that any of their hundreds of Oklahoma patrons are eligible simply through their privilege of patronship. Certificates will be issued on request, and undoubtedly are of intrinsic value in reminding the negligent receiver of the physicians ability that reasonable reward is his due, oftentimes honored by chronic indifference however. This organization is one of the few in existence which on its record of achievement, evidenced by satisfied clientele, has proven really worth while as a stimulator and producer of cash for the physician giving them opportunity to demonstrate, in lieu of a ledger crowded with dead and worthless accounts.

University Hospital, Enid, Oklahoma, has completed plans for an annex to be built on the west side of the present building, which will give north, south and western exposures. It will be three stories in height, and, according to press dispatches, will provide the following accommodations: Basement; nurses' and physicians' dining rooms; five bed rooms; First Floor, seven rooms, baths, pantries and kitchen; Second floor, private room, six rooms, maternity ward, dirt kitchen, sterilization and bath rooms; Third floor, pathological and x-ray laboratories, with dark rooms, etc., bath rooms and sterilizer. Equipment also calls for tile floor-operating rooms, silent signal system, dumb and passenger elevators, clothes chutes and many other modern conveniences. The dimensions are 37 by 59 feet, and are the result of plans formulated by Drs. Mayberry and Swank.

Muskogee County Medical Society held its annual meeting and election of officers December 13th, using the occasion to inject a "feed for the animals" at the Town and Country Club, the latter feature being the best of all the offerings, many of the members enjoying that feature hugely. Officers elected were: President Drs. F. W. Ewing; Vice-president, C. M. Fullenwider, Secretary, A. L. Stocks; Censor, J. T. Nichols.

Toastmaster, Dr. J. Hoy Sanford, called upon the following who responded in jocular, comic serious and poetic vein: Drs. P. P. Nesbit, "Over There vs. Over Here"; I. B. Oldham, on "The Good of the Order"; "Pat" Fite, "Jibes," and they were: W. E. Floyd, "Poetry Paralyticus," and it was; J. I. Hollingsworth, "Recitation"; Mr. Oscar Stewart, Superintendent School for the Blind, "A Son of a Doctor," rendering filial tribute to the Old Roman, his father, who was present, in which he included the old fashioned doctor through whose veins flowed volumes of the milk of human kindness, who saw more in his profession than monetary reward and tempered the winds to the shorn lambs of humanity. Dr. W. Albert Cook, Tulsa, and Dr. S. E. Mitchell, Stigler, were visitors. Dr. Cook following the Tulsa spirit by briefly outlining the progress of Tulsa's profession, especially noting their recent activity in calling to account those members who had transgressed various decencies, especially stressing the eager doctor, inspirer of baseless malpractice suits and voluntary witness abetting such injustices. The affair produced very few headaches as a result of the Volstead act.

The Festive Christian Scientist is a monopolist in some respects, at least exclusiveness in the art of prayer and healing is his attribute, if press dispatches are correct. "Dr." "Prof." or "Rev." Louis Lorch, whichever the case may be, Oklahoma City, is receiving their cold white shoulder of disdain over his attempt to "free-lance" among Oklahoma City's groping, trusting ill. They say Lorch is not "lected," irregular, not vided by Mary Baker, G. E., they do not say it, but evidently mean that prayers from such unofficial, unanointed sources do not reach the inner throne room guarded by the wraith of Mary Baker, therefore it is no go. It is not reported that charges will be filed before the Oklahoma State Board of Prayer and Suggestion in the matter and County Attorney Cargill sees no way where he can officially horn himself into the suggestive, exhortive dilemma, so Lorch, for the nonce, will be allowed to continue to "practice." Bully for Lorch; we are for him, we can see no reason why just anyone may not pray and heal all he can, especially when the fee runs as high as a thousand per heal. The C. E.'s were solicitous over our recent "attempt to throttle" the rights of the Chiropractic to follow his devious inclinations; now we are solicitous for the rights of our good fighting American, Lorch.

West Main Maternity Sanitarium, Oklahoma City, has passed through the usual experience incident to hasty, ill-considered charges that the institution was improperly managed, with the final result that the matter was quietly dropped, with none of the scare-head publicity which ushered in the charges emanating from the feverish activity of the Commissioner of Charities and Corrections. This ending is decidedly disappointing to those who have observed the rather frequent recurrences of such farces in the past, each of which increases the irritation that such miserable conditions as were alleged to exist in the hospital would be tolerated in a highly civilized center, or if they did not exist, that our profession has become so callous that unwarranted attacks upon its members are allowed to go unchallenged to any length of injury. It is said that in this case the Commissioner, though in a few minutes walk, telephonic communication, probably with unusual powers permitting him to personally visit and verify his charges before they were launched on their destructive course, made no attempt to ascertain the conditions before handing the matter to the news mongers to peddle over the State. We are wearied of this injustice. If the hospital is culpable, it should pay the penalty; if the Commissioner is poorly balanced, our eelymosynary institutions are in sad plight.

Fifteenth Annual Meeting of the Medical Association of the Southwest held at Wichita, Kansas, November 22-24. The fifteenth annual meeting of the Medical Association of the Southwest which was held in Wichita this year, while not quite so largely attended as usual, was really more interesting than usual; the smaller attendance could probably be accounted for by the fact that it followed the Southern meeting and the College of Surgeons so closely; but all who attended said they had never attended a better meeting in the district. There were about three hundred members present, about fifty of which were ex-service men and who enjoyed a reunion the first day. The report of the Secretary-Treasurer showed more members had paid dues this year than in any previous year and that the association was free from any debt. The hardship in maintaining the journal due to the great increase in everything that enters into the publishing of the same was freely discussed and a resolution of commendation for the conduct of the journal especially with reference to its advertising policy unanimously passed. The features of the scientific program this year were the two splendid addresses made by Dr. F. M. Pottenger, of Monrovia, Calif., and Dr. J. H. Stokes, of the Mayo Clinic of Rochester, Minn. Dr. Pottenger certainly impressed everyone present with the need for greater proficiency in the diagnosis of tubercular conditions, as did Dr. Stokes that of syphilis. The scientific program was unusually good and the clinics held each forenoon in every hospital in the city proved very interesting to all in attendance. The officers elected for the ensuing year were: President—Dr. E. H. Skinner, Kansas City, Mo.; Vice Presidents—Dr. W. W. Rucks, Oklahoma City; Dr. J. T. Axtell, Newton, Kansas; Dr. H. Moulton, Fort Smith, Ark.; Dr. R. H. Needham, Fort Worth, Tex.; Secretary-Treasurer—Fred H. Clark, Oklahoma City, Okla. The next meeting is to be a joint meeting with the Missouri Valley Medical Society and will be held in Kansas City, Mo., beginning October 4, 1921.

MISCELLANEOUS

WHY NOT?

CHIROPRACTORS FORMULATE BILL.

Petition If Subscribed to by People Will Revolutionize Laws Governing Practice in Oklahoma.

After having the people of the state vote to let them practice without going through a medical school and standing an examination before the state board, chiropractors of Oklahoma backed by their friends, have formulated a bill of their own which they propose for referendum vote in 1922. It will be remembered that in the recent election the people turned down the legislative act which would have required chiropractors to attend a medical school for a given length of time.

The proposed bill, which is now being circulated in the form of a petition by the chiropractors and their friends is what chiropractors call a "happy medium." It would force any man who desired to practice healing of any kind in the state, to graduate from a school and to present his certificate to the State Corporation Commission, the Corporation Commission to grant license if it sees fit.

The chiropractors take a back hand slap at the medical profession in the bill as one paragraph reads, "All prescriptions shall be written in simple, plain English terms words and figures; all death

certificates shall be made by the coroner of the county in which the death occurs; and at each and every major surgical operation a disinterested witness shall be present and shall keep and preserve a careful, correct and competent account of the case, which record shall be kept, and at all times be subject to inspection and use by any one who may be interested therein."

The petition if properly subscribed to and voted on affirmative by the people, will repeal practically all existing legislation governing the practice of healing in Oklahoma.

"Dr." Vernon Bee is circulating the petition in McAlester.—McAlester Capitol.

BENZYL BENZOATE.

According to reports, the medicinal ester chemically known as Benzyl Benzoate continues to give results and to justify the recommendations made at the outset by Macht and others. Especially is it effective in the treatment of painful menstruation, provided this be caused by spasm of the uterine musculature. Clinicians are quite in agreement as to that. Litzenberg, for one, says that he found it satisfactory in 81 per cent of the cases treated.

Macht himself, suggesting further uses for the drug, has recently attested its efficacy in whooping-cough. It does appear to reduce very decidedly the number of paroxysms as well as their severity. Those who have not yet tried it in this disorder should not fail to do so. Hiccough common in infants is another indication for its use.

The Abbott Laboratories supply Benzyl Benzoate in two forms, tablet and elixir, both of which are truly representative of the drug.

ADDITIONAL INSURANCE AVAILABLE.

The Medical Protective Company of Fort Wayne, Ind., announces that it is now providing added indemnity for the protection of the physicians where desired. The company has just completed statistics on the amount of money involved in judgments that have been rendered in the past few years and finds that the number of judgments in excess of \$5,000 in 1915 was a little over 1 per cent, while in 1920 the ratio of judgments in excess of \$5,000 was a trifle less than 54 per cent. This indicates that courts and juries are now assessing higher damages against physicians found guilty of malpractice than they did in 1915. The Medical Protective Company has met this situation by preparing an added indemnity clause increasing the amounts available for the payment of judgments to \$10,000 in a single case and \$30,000 in any number of suits growing out of services rendered in any one year. The premium for this additional protection will be \$6, making a total premium of \$21 for indemnity in the larger amounts. Physicians whose policies are now limited to \$5,000 and \$15,000 respectively, may take advantage of this enlarged protection by having a rider attached to their present policies on the payment of the extra premium of \$6.

Our members are not to confuse this proposition with the idea that this is in any sense an increase in rates for their indemnity policies; it is not. This company is unquestionably the company closest to the physician's ideals and principles, meets and defends his enemies more nearly to his liking and in the spirit of "millions for defense, but not one penny for tribute," than any other, and for that reason should have the earnest consideration of those carrying that protection. A protective policy in any other company, carried by any member of our Association, is a reflection upon the member's sense of justice and equity, for the Medical Protective is one of our strongest supporters, while the others are not. The writer knows from personal experience, and that of others, that in the hour of trial to the harassed, often panicky physician, many companies make it the rule to suggest the "easiest" way out, forgetful of the dragon's teeth the procedure produces, which act ignores that which should be dear to all physicians, a settlement within the bounds of honor only.

THE INDUSTRIAL COMMISSIONS' CHAIRMAN IDEA OF MEDICAL EXACTNESS.*

Oklahoma City, September 17, 1920.

Dear Doctor:

We are returning herewith the x-ray report of the examination in this case. This report is of no possible use to us; put as it is in overdone and stilted technical phrase. A decent respect for the common forms of speech and the plain English language spoken by the average American should impel the medical profession to abandon this Latin jargon, adopted by a coterie of old fools more than one hundred years ago.

Seriously, to a layman, this report is ludicrous, for it is as unintelligible as so much Hebrew would be to a Hottentot. I am asking you, and shall request the entire medical profession, with whom we have relations, to use such language in their reports as may be comprehended by the ordinary clodhopper.

For instance, in this report we are told that "The lumbar vertebrae show a slight deviation of spinous processes to right at the fifth." This statement sheds a flood of light upon the whole subject, even as the sun illuminated the earth this morning.

We are further told that "in transverse view the alignment is normal." This is gratifying. And further, "The pelvis has been injured and there is a slight dislocation at the symphysis pubes."

Now, we have been afraid of this all the while; when the symphysis pubes get out of fix the patient is liable to have saliva glands with a disastrous result always attending of disharmonization of the parenthesis of the syntax.

Dr. —, however, gives us some comfort in this case by stating that the femur of either side are in normal relation to the acetabuli; and our hopes are still lifted higher, when the doctor solemnly states: "The sacrum and coccyx are in normal alignment with the vertebrae." But our hopes now so high are shaken and beclouded when we read the concluding paragraph of Dr. —'s report and the alarming condition of the patient is disclosed by this simple statement:

"Measurements (by triangulation) indicated that the symphysis pubes, and sacro-iliac synchondroses are out of alignment but that the sacro-iliac joints are normal." The man will surely die! For when the symphysis pubes and sacro-iliac synchondroses are not on straight, it is a sure sign that the suffering soul is about to yield up the ghost.

We are sure that after analyzing this very clear and comprehensive report that the claimant before this Industrial Commission is in as bad condition as the fellow in the Bible, who, according to the old darkey preacher, had "divers diseases." He said that in these days, if you takes the small-pox, the doctor may cure you; if you takes the "yaller" fever, the earthly doctors can "khoure" you, hut if you takes the "divers diseases," you is a gone nigger, sure.

Yours very sincerely,
Baxter Taylor, Chairman.

*We tried to suggest to Judge Baxter Taylor, the Chairman of the Commission, who perpetrated the above on one of our good professional friends, that there might be some jaundice in his visionary angulation, the canal of Schlemm might be occluded by a processus inflammatoriae, thus producing in the eminent disciple of Blackstone that tragic and fatal condition known as *seclusio pupillae*, and, finally, to end the heated discussion we exclaimed, "Man, this matter is *Res Ipse Loquitur, Res Adjudicata*. I know of no relief for you except you ask the Attorney General to Quo Warranto the Oklahoma doctor with a writ of Certiorari, hale him in with a Deuces Taken and then on his Habeas Corpus, if the matter is deemed *in consimili casu* by the rule of *quare impedit*, pronounce the degree of culpability apparent. In case he fails to answer we feel sure he will come tremblingly into court on knowing that a *capias ad respondum* is issuing against him." Seriously, all we can say in the matter is that we should soften the way for our Commission as far as possible for we of Oklahoma have lighter liens by reason of the Commission's fairness to us, than is the lot of many of our professionals in other states, and Judge Taylor is not to be lightly tilted off his judicial chair by any ordinary affidavit of bias or prejudice.—Ed.

NEW BOOKS

Under this heading books received by the Journal will be acknowledged. Publishers are advised that this shall constitute return for such publications as they may submit. Obviously all publications sent us cannot be given space for review, but from time to time books received, of possible interest to Oklahoma physicians, will be reviewed.

MATERNITIS.

By Charles E. Paddock, M. D., Professor of Obstetrics, Chicago Post-Graduate Medical School, Assistant Clinical Professor of Obstetrics, Rush Medical College; Attending Obstetrician, St. Luke's Hospital; Illustrated; Cloth, 210 pages; Price \$1.75. 1920. The Year Book Publishers, 304 South Dearborn, Chicago.

This little volume is intended to supplement the advice of the physician to expectant and young mothers; a book "Concerning the Care of the Prospective Mother and Her Child," as the author puts it. This third edition attests its reception, and its value as a guide to the obstetrical case, into whose hands it may be placed by the physician. Its language is so expressed that one of average intelligence should appreciate it, as it is not, and was not intended to be a medical work in the strict sense.

A TEXT BOOK OF PHYSIOLOGY.

By Russell Burton-Opitz, S. M., M. D., Ph. D. Illustrated. W. B. Saunders Company: London and Philadelphia, 1920.

This scholarly, scientific work on physiology, the foundation of medicine and surgery, so ably presented by the author, Russell Burton-Opitz, is easily the masterpiece of its kind. We make no pretense of reviewing his work, but only suggest its possession by every medical student and practitioner.—C. W. H.

BASAL METABOLIC RATE DETERMINATIONS. Laboratory Manual of the Technic of Basal Metabolic Rate Determinations, by Walter M. Boothby, M. D., and Irene Sandiford, Ph. D., Section on Clinical Metabolism, The Mayo Clinic, Rochester, Minnesota, and The Mayo Foundation, University of Minnesota. Octavo volume of 117 pages with 11 tables and charts of explanation. Philadelphia and London: W. B. Saunders Company, 1920. Cloth, \$5.00 net.

1919 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 1331 pages, 490 illustrations. Philadelphia and London: W. B. Saunders Company. Cloth \$12.00 net.

The Endocrines. By Samuel Wyllis Bandler, M. D., F. A. C. S., Professor of Gynecology in the New York Post-Graduate School and Hospital. Octavo of 486 pages. Philadelphia and London: W. B. Saunders Company. 1920. Cloth \$7.00 net.

INDEX TO CONTENTS, VOLUME XIII.

CONTRIBUTED ARTICLES.

A

Acidosis	254
Acute Infections of the Upper Respiratory Tract	87
A Discussion of the Treatment of Malaria	281
Annual Meeting:	
President's Address—The Past and Future of Medicine in Oklahoma	199
Chairman's Address, Section on General Medicine—Team Work in Medicine	203
Chairman's Address, Section on Surgery and Gynecology—	
Reconstruction and Rehabilitation of Our Wounded Industrial Army	205
Chairman's Address, Section on Genito-Urinary Diseases, Dermatology and Radiology—	
Value of Corroborative Evidence of Cystoscope, X-ray and Laboratory	207
Chairman's Address, Section on Pediatrics and Obstetrics—Conservative Ohstetrics	211
Transactions of the House of Delegates	219-220
General Meeting	220
Transactions of Council	221
Report of Tuberculosis Committee	222
Report of Necrological Committee	223
Report of Auditing Committee	224
Report of Secretary-Treasurer-Editor	224
Recommendations of Council to House of Delegates	228
Report of Committee on Medical Education	229
The Oklahoma Hospital Association	230
Apothanasia	146
Appendix, Wandering—Case Report	218

B

Bladder Neck, Obstructions at the	367
Bowel, Obstruction of, Due to Meckel's Diverticulum	392

C

Cancer, Paget's	253
Cancer, Some Reflections Upon the Diagnosis of	251
Causative Factors in Eye Conditions	169
Cerebrospinal Lues, Diagnosis and Treatment of	353
Cerebrospinal Syphilis, Pathology of Spinal Fluid in	357
Cesarean Section	19
Chronic Endocervitis, Tracheoplastic Operation for	1
Conservative Obstetrics	211
Consultant in Medicine, The Value of, to the General Practitioner	171
Corroborative Evidence of Cystoscope, X-ray and Laboratory, Value of	207
Cystoscopy, Operative and Diagnostic	64

D

Dementia Precox and Manic-Depressive Insanity Clinically Contrasted	123
Diagnosis of Cancer, Some Reflections Upon the	251
Diagnosis, Oral Sepsis and Its Relation to	325
Diagnosis in Ohstetrical Practice, The Importance of	159
Diagnosis and Treatment of Cerebrospinal Lues	353
Diagnosis of the Pathological Heart	129
Diarrhea, Summer	301
Discussion of the Treatment of Malaria, A	281

E

Ear in the Recent Influenza Epidemic, The	102
Endocervitis, Tracheoplastic Operation for Chronic	1
Exophthalmic Goiter	94
Experiences With Empyema at Base Hospital 101, A. E. F., France	419
Eye Conditions, Causative Factors in	169

F

Fever, Remittent Malarial	133
Fever, Scarlet	330
Fever, Treatment of Typhoid	179
Fever, Typhoid	174
Focal Infections, Relation of, to Skin Diseases	49
Fractures, Some Personal Ohservations on	12

G

Gall-Bladder, Infection of—Etiology and Treatment	136
Glaucoma, Primary, Report of Case—Recovery Without Operation	99

Goiter, Exophthalmic	94
Goiter—Some Observations	398
H	
Heart, Diagnosis of the Pathological	129
Hypertrophic Stenosis of the Pylorus in Infancy	87
I	
Importance of Diagnosis in Obstetrical Practice, The	159
Importance of Urological Examination in Cases of Obscure Abdominal Pain and in Bladder and Kidney Infections	74
Insanity by Contagion	119
Insanity, Dementia Precox and Manic-Depressive, Clinically Contrasted	123
Infection of Gall-Bladder, Etiology and Treatment	136
Infections of the Upper Respiratory Tract, Acute	96
Influenza Epidemic, The Ear in the Recent	102
L	
Leprosy in Oklahoma	143
Lymphatic Derangement, Treatment of	336
M	
Malaria, A Discussion of the Treatment of	281
Malarial Fever, Remittent	133
Mediastinal Neoplasm	247
Medicine, Team Work in	203
Medicine, The Past and Future of, in Oklahoma	199
Medicine, Value of the Consultant in, to the General Practitioner	171
Medicine, Women in	340
Mr. Wilson, Psychologically	259
O	
Observations on Fractures, Some Personal	12
Obscure Abdominal Pain in Bladder and Kidney Infections, Importance of Urological Examination in Cases of	74
Obstetrics, Conservative	211
Obstetrics, Pituitary Extract in	164
Obstructions at the Bladder Neck	367
Obstruction of Bowel Due to Meckel's Diverticulum	392
Obstructions to Outlet of Stomach	59
Open Wounds, Treatment of	15
Operatic and Diagnostic Cystoscopy	64
Operation, Tracheoplastic, for Chronic Endocervitis	1
Oral Sepsis and Its Relation to Diagnosis	325
P	
Paget's Cancer	253
Pathological Heart, Diagnosis of the	129
Pathology of Spinal Fluid in Cerebrospinal Syphilis	357
Pituitary Extract in Obstetrics	164
Problems of the War Risk Examiner	214
Proceedings of Oklahoma City Clinic Round Table, Wesley Hospital	304, 411
Proceedings of St. Anthony Clinical Society	25, 106, 147, 183, 266, 307, 408, 435
Primary Glaucoma, Report of Case—Recovery Without Operation	99
Pulmonary Acoustics	429
Pylorus, Hypertrophic Stenosis of the, in Infancy	87
R	
Rabies-Hydrophobia	288
Reconstruction and Rehabilitation of Our Wounded Industrial Army	205
Remittent Malarial Fever	133
Relation of Focal Infections to Skin Diseases	49
Roentgenology in Relation to Surgery	404
Rupture of the Spleen, Traumatic—Splenectomy and Recovery	29
S	
Scarlet Fever	330
Selection of Sites for State's Tuberculosis Sanatoria	434
Shocks: Traumatic and Otherwise	181
Some Personal Observations on Fractures	12
Some Reflections Upon the Diagnosis of Cancer	251
Spleen, Traumatic Rupture of the—Splenectomy and Recovery	29
Sporotrichosis	41
Stomach, Obstructions to Outlet of the	59
Summer Diarrhea	301
Surgery, Roentgenology in Relation to	404
Surgery of the Tonsil	100

T

Talipes—A Plea for Early Treatment	387
Team Work in Medicine	203
Thoracopagus—Report of Case	24
Tonsil, Surgery of the	100
Tonsils, The Relation of, to Symptomatology and Other Conditions of the Body	294
Treatment, and Diagnosis, of Cerebrospinal Lues	353
Treatment of Lymphatic Derangement	336
Treatment of Malaria, A Discussion of the	281
Treatment of Open Wounds	15
Treatment of Typhoid Fever	179
Tracheoplastic Operation for Chronic Endocervitis	1
Traumatic Rupture of the Spleen: Splenectomy and Recovery	29
Typhoid Fever	174

V

Value of the Consultant in Medicine to the General Practitioner	171
Value of Corroborative Evidence of Cystoscope, X-ray and Laboratory	207
Value of Prenatal and Infant Welfare Clinics, The	432
Venereal Diseases: Their Control and Treatment in the United States Army	138

W

Wandering Appendix	218
War Risk Examiner, Problems of the	215
When Does the Surgeon's Obligation to His Patient End?	401
Women in Medicine	340
Wounded Industrial Army, Reconstruction and Rehabilitation of Our	205
Wounds, Treatment of Open	15

SHORT SUBJECTS.

A

Acute Middle Ear Infections in Children	341
Agreement in Results of the Wassermann Reaction	132
A Quarter Century of Serum Therapy in Diphtheria	335
Arsphenamin	178

B

Bone Fistulas	73
---------------	----

C

Caliper Extension	8
Cancer	258
Complete Closure of Urinary Bladder After Coagulation of Tumors	128
Cranial Defect	186

D

Dental Surgery and Organic Heart Disease	329
Diaphragmatic Hernia Diagnosed During Life	407

E

Encephalitis Lethargica in Pregnancy	180
Experimental Study of the Nasopharyngeal Secretions from Influenza Patients	202

F

Focal Infection and Its Relation to Obstetrics	206
Foreign Body in the Nose	172
Fractures of the Maxillae	58

G

Gastric Cancer	250
General Prognosis of Syphilis	135
Gunshot Fractures	81

I

Industrial Blood Poisons	206
Influenza and Hypophrenia	433
Iodin Tinctures	10

L

Laryngeal Crisis With Unusual Complication	142
--	-----

M

Malaria	287
Malaria in the Balkans	93
Malaria Control	293
Measles, Brain Complications	339
Medical Education	202
Mistakes in Diagnosis	9
Mosquito Control	306

P	
Pathologic Lying in a Criminal.....	137
Postdiphtheritic Paralysis.....	105
Pyelonephritis.....	373
Q	
Quinin in Influenzal Pneumonia.....	335
R	
Radium Treatment of Cancer of the Esophagus Under Roentgen-Ray Control.....	252
Removal of Astragalus in Paralytic Feet.....	397
S	
Specific Nature of Hemolytic Streptococcus of Scarlet Fever.....	366
Spirocheta Pallida.....	163
State Medical Service.....	218
Suprapubic Operations.....	173
T	
Testicle Transplantation.....	210
The Nurse Question.....	98
The Future of Obstetrics and Gynecology.....	213
The Tonsil and Infection.....	293
Typhoid Carriers.....	310
V	
Venereal Disease Dispensary.....	356
W	
War Fractures.....	11, 87
Y	
Yellow Fever in Ecuador.....	142

EDITORIAL.

Ambiguities of the Harrison Anti-Narcotic Act.....	415
Are We to Have Another Friedmann?.....	312
As to Senate Bill 111—As the Matter Appeared in October, 1918.....	372
A Union of Doctors.....	111
Cancer is Still King.....	272
Criminology and Crime.....	189
Diseases of the Heart.....	33
Dr. John W. Duke—In His Memory.....	377
Have a Heart, Muckraker.....	313
Improved Service for Oklahoma's Unfortunates.....	344
Malpractice Suits—What Our Record Discloses.....	32
Merely a Matter of Viewpoint.....	187
No Physical Test for School Children.....	345
Official Returns on the Chiro Bill.....	413
Oklahoma's Educational and Professional Reputation at Stake.....	370
Oklahoma Should Emulate Arkansas.....	343
Our Medical School Into Class "A".....	151
Our New National President, Dr. Hubert Work.....	187
Proposed Hospital for Oklahoma's Disabled Soldiers.....	437
Public Hygiene and the League of Nations.....	345
Punishment to Fit the Crime.....	32
Rules and Regulations Affecting Physicians and Others Relative to Venereal Diseases.....	311
September's Problems.....	342
Should Doctors Advertise?.....	83
Some Aspects of the Venereal Problem.....	152
The Cause of It All.....	438
The Demise of King Alcohol.....	312
The Disabled Soldier.....	82
The Germ of Procrastination.....	152
The Homeopath Falls Not for Foolishness.....	271
The Journal's New Clothes for 1921.....	414
The Medical Profession of Oklahoma.....	110
The New Orleans Meeting.....	272
The Status of Chiropractic in Oklahoma.....	414
Time to Retire.....	31

Unreliable and Fake Arsenicals in Treatment of Syphilis.....	270
Uruguay and the United States.....	346
Why Tuberculous Persons Without Funds Should Not Leave Their Home State.....	188
Your Advertising, Doctor.....	110

DEATHS OF MEMBERS.

Ballard, Dr. Charles B.....	416
Braselton, Dr. B. E.....	113
Clarkson, Dr. Wm. H.....	35
Crutcher, Dr. Wilford Hall.....	190
Duke, Dr. John W.....	377
Gipson, Dr. Herbert H.....	154
Hill, Dr. Israel.....	231
Howell, Dr. D. D.....	35
Hunter, Dr. Samuel M.....	383
Johnson, Dr. James C.....	35
Johnson, Dr. William Martin.....	154
Landrum, Dr. Sam Houston.....	35
Mahar, Dr. Charles Henry.....	383
Pleas, Dr. Earnest.....	348
Willard, Dr. Robert S.....	154
Wyman, Dr. Frank W.....	35
Wynne, Dr. Henry H.....	154

MISCELLANEOUS.

A

Abbott's Advertising Results.....	37
Additional Insurance Available.....	443
A Diminishing Profession.....	318
An Expose of Shifty Medical Commercialism by the Surgeon General of the Army.....	384
A New Department.....	417
Annual Meeting Program.....	195
Anti-Malaria Campaign in South Georgia.....	318
At the New Orleans Meeting.....	155

B

Benzyl Benzoate.....	443
----------------------	-----

C

Cancer of the Cervix: Its Treatment.....	319
Can Diphtheria Mortality Be Reduced?.....	37
Carcinoma of the Ear.....	275
Celebrates Thirtieth Anniversary.....	114
Committees for Oklahoma City Meeting.....	155
Correspondence.....	36
Council on Pharmacy and Chemistry.....	38, 116, 232, 279, 322, 349, 385
County Societies.....	36, 84, 112

D

Doctor or Specialist.....	113
---------------------------	-----

E

Economical and Safe Fly Poison.....	280
Endocrine Glands.....	231

F

Filarial Periodicity.....	319
Five-Grain Tablets Added.....	191
Frank S. Betz Co. Buys the Crown Surgical Instrument Co.....	193

G

Gastric Adenoma.....	276
----------------------	-----

I

Interstate Medical Licensure.....	349
-----------------------------------	-----

M

Malaria Control.....	317
Medical Ethics.....	276
Military Training.....	115

O

Official Call.....	155
Oklahomans at the New Orleans Meeting.....	191
Our Advertisers at New Orleans.....	191

P	
Personal and General News	34, 84, 112, 153, 189, 231, 273, 314, 346, 381, 415, 440
Progress	191
Public Health Conference	348
R	
Report of Oklahoma State Public Health Conference	416
Revised Rules and Regulations, Venereal Disease Reports	315
Roster of Members, Oklahoma State Medical Association, 1920	233
S	
School for the Blind	317
Scott Ferris' Tribute to the American Doctor	155
Sex Hygiene in the Schools	192
Six American Red Cross Nurses Win World's Highest Nursing Honor	317
Southern Chivalry in Montenegro	115
State Vaccines and Serums	417
T	
The Bremerman Urological Hospital	193
"The Cascara House"	318
The Desirable Practitioner	318
The Function of a Medical Society	113
The Ideal Practitioner	114
The Industrial Commissions Chairman Idea of Medical Exactness	443
The Perplexing Nurse Problem—Opinion and Criticism	192
The Record Strands	156
The Therapy of Adrenalin	349
The Treatment of Shock	417
To All Physicians Who Served the Federal Government During the War	114
Tuberculosis	348
U	
Unwept, Unhonored, Unhung	193
W	
What the War Did for Medicine	156
Why Not?—Chiropractors Formulate Bill	442

NEW BOOKS

American Illustrated Medical Dictionary (Dorland)	324
A Textbook of Physiology	444
Basal Metabolic Rate Determinations	444
Care and Feeding of Southern Babies	324
1919 Collected Papers of the Mayo Clinic	444
Health Insurance and Physicians	323
Industrial Medicine and Surgery	157
Maternitis	444
Modern Surgery	117
Simplified Infant Feeding	324
The Duodenal Tube	386
The Endocrines	444
The Surgical Clinics of Chicago	157, 323

INDEX TO AUTHORS.

A	
Alford, J. M., Oklahoma City	1
Atherton, Lytle, Tulsa	181
B	
Ball, Charles H., Tulsa	49
Bass, C. C., New Orleans, La.	281
Bolend, Rex, Oklahoma City	353
Brown, Benjamin H., Muskogee	129
C	
Campbell, Rhea S., Guthrie	357
Caulk, John R., St. Louis	367
Clinton, Fred S., Tulsa	29
Collins, Joseph, New York City	259

(Continued on Page 452)

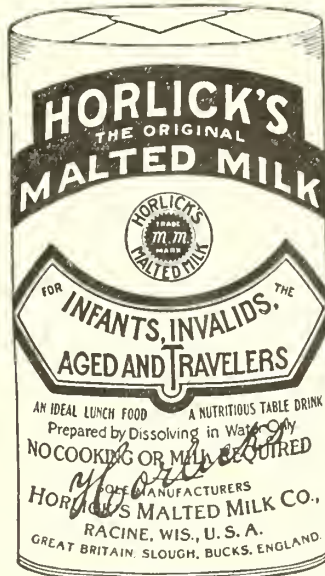
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H. S. Garrett, M. D., Internal Medicine
Iva Lee Bouslough, M. D., Pathology
T. W. Foster, D. D. S.

	D	
Davis, S. C., Oklahoma City		169
Doler, Calhoun, Supply		164
Duke, John W., Guthrie		119
Dutton, W. Forrest, Tulsa		325
	E	
Eisendrath, Daniel N., Chicago		251
	F	
Fishman, C. J., Oklahoma City		171, 254
	G	
Garrison, George Irwin, Quapaw		146
Gearheart, Alonzo P., Blackwell		392
Gore, Victor M., Clinton		218, 387
Guthrie, Austin L., Oklahoma City		96
	H	
Harrison, C. M., Comanche		174
Haynie, John A., Durant		133
Hirschfield, A. C., Oklahoma City		19
	J	
Johnston, James C., McAlester		404
	K	
Kuyrkendall, L. C., McAlester		102
	L	
Lain, Everett S., Oklahoma City		41
Lewis, A. R., Oklahoma City		434
Lewis, Bransford, St. Louis		64
Livermore, W. H., Chickasha		94
	M	
McKee, E. N., Enid		59
Moorman, L. J., Oklahoma City		199
	N	
Nesbitt, P. P., Muskogee		422
	O	
Osborn, George R., Tulsa		159
	P	
Palmer, Clara, McAlester		340
Phelan, J. R., Oklahoma City		99
Price, Horace T., Tulsa		247
	R	
Reed, Horace, Oklahoma City		401
Rice, C. V., Muskogee		211, 301, 432
Rice, Edgar E., Shawnee		398
Riely, Lea A., Oklahoma City		419
Riley, James T., El Reno		203
Roddy, John A., Oklahoma City		330
Rogers, McLain, Clinton		136, 218
	S	
Sanford, J. Hoy, Muskogee		74, 207
Sanger, Fenton M., Oklahoma City		12
Sanger, Winnie M., Oklahoma City		336
Scott, Hugh, Oklahoma City		138, 214
Smith, J. A., McAlester		24
Smith, Ralph V., Tulsa		205
Stanley, M. V., Tulsa		179
Stout, M. E., Oklahoma City		15, 253
	T	
Terrell, T. C., Fort Worth, Texas		288
Thompson, C. A., Muskogee		143
Todd, H. Coulter, Oklahoma City		100
Turley, Louis A., Norman		294
	W	
Wall, G. A., Tulsa		87
	Y	
Young, Antonio D., Oklahoma City		123

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